FCC CERTIFICATION TEST REPORT

Applicant	:	Tenetics, LLC
Address of Applicant	:	8630 Guilford Road, Suite M #108, Columbia, MD 21046 USA
Manufacturer	:	Tenetics, LLC
Address of Manufacturer	:	8630 Guilford Road, Suite M #108, Columbia, MD 21046 USA
Equipment under Test	:	wireless internet gateway
Model No.	:	GW3
FCC ID	:	2AA6Q-GW3
Test Standard(s)	:	FCC Rules and Regulations Part 15 Subpart C, ANSI C63.10:2013
Report No.	:	DDT-RE24092616-2E03
Issue Date	:	2025/01/07
Issue By	:	Guangdong Dongdian Testing Service Co., Ltd. Unit 2, Building 1, No. 17, Zongbu 2nd Road, Songshan Lake Park, Dongguan, Guangdong, China, 523808

REPORT

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Test Report Declare

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Test Standard Used:

FCC Rules and Regulations Part 15 Subpart C,
ANSI C63.10:2013

We Declare:

The equipment described above is tested by Guangdong Dongdian Testing Service Co., Ltd. and in the configuration tested the equipment complied with the standards specified above. The test results are contained in this test report and Guangdong Dongdian Testing Service Co., Ltd. is assumed of full responsibility for the accuracy and completeness of these tests.

Report No.:	DDT-RE24092616-2E03		
Date of Receipt:	2024/12/04	**Date of Test:**	2024/12/04 - 2025/01/07

Prepared By:

Tiger Mo

Tiger Mo/Engineer

Approved By:

Damon Hu

Damon Hu/EMC Manager

Note: This report applies to above tested sample only. This report shall not be reproduced in parts without written approval of Guangdong Dongdian Testing Service Co., Ltd.

Revision History

Rev.	Revisions	Issue Date	Revised By
---	Initial issue	2025/01/07	

1. Summary of Test Results

No.	Test Parameter	Clause No.	Condition	Result
1	Maximum Peak Output Power	FCC Part 15: 15.247(b)(1)	/	Pass
2	20 dB Bandwidth	FCC Part 15: 15.247(a)(1)	/	Pass
3	Carrier Frequency Separation	FCC Part 15: 15.247(a)(1)	/	Pass
4	Number of Hopping Channel	FCC Part 15: 15.247(a)(1)(iii)	/	Pass
5	Dwell Time	FCC Part 15: 15.247(a)(1)(iii)	/	Pass
6	RF Conducted Spurious Emissions	FCC Part 15: 15.247(d)	/	Pass
7	Radiated Emission	FCC Part 15: 15.205, FCC Part 15: 15.209, FCC Part 15: 15.247(d)	/	Pass
8	Band Edge Compliance	FCC Part 15: 15.205, FCC Part 15: 15.209, FCC Part 15: 15.247(d)	/	Pass
9	Power Line Conducted Emissions	FCC Part 15: 15.207(a)	/	Pass
10	Antenna Requirement	FCC Part 15: 15.203	/	Pass
Note: N/A is an abbreviation for Not Applicable, and means this item is not applicable for this device or no need to test according to standard.				

2. General Test Information

2.1. Description of EUT

EUT Name	:	wireless internet gateway
Model Number	:	GW3
EUT Function Description	:	Please reference user manual of this device
Power Supply	:	DC 12V power by external adapter or solar panel or a built in 6V sealed lead-acid battery.
Antenna Type	:	Internal printed meandered inverted F antenna, External Ziisor 3dBi omni-directional antenna, External Laird FG0293 5dBi omni-directional antenna
Max Antenna Gain(dBi)	:	Internal printed meandered inverted F antenna, Max Gain 2.54dBi External Ziisor 3dBi omni-directional antenna, Max Gain 3dBi External Laird FG0293 5dBi omni-directional antenna, Max Gain 5dBi

Operation Frequency	:	902.3 MHz-914.9 MHz
Modulation	:	CSS/LoRa

Channel information					
Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
0	902.3	22	906.7	44	911.1
1	902.5	23	906.9	45	911.3
2	902.7	24	907.1	46	911.5
3	902.9	25	907.3	47	911.7
4	903.1	26	907.5	48	911.9
5	903.3	27	907.7	49	912.1
6	903.5	28	907.9	50	912.3
7	903.7	29	908.1	51	912.5
8	903.9	30	908.3	52	912.7
9	904.1	31	908.5	53	912.9
10	904.3	32	908.7	54	913.1
11	904.5	33	908.9	55	913.3
12	904.7	34	909.1	56	913.5
13	904.9	35	909.3	57	913.7
14	905.1	36	909.5	58	913.9
15	905.3	37	909.7	59	914.1
16	905.5	38	909.9	60	914.3
17	905.7	39	910.1	61	914.5
18	905.9	40	910.3	62	914.7
19	906.1	41	910.5	63	914.9
20	906.3	42	910.7	/	
21	906.5	43	910.9	/	

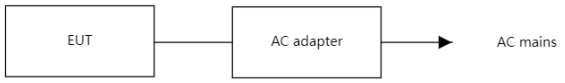
Note: The above EUT information is declared by manufacturer and for more detailed features description please refer to the manufacturer's specifications or User's Manual. The above Antenna information is declared by manufacturer and for more detailed features description please refer to the manufacturer's specifications, the laboratory shall not be held responsible.

"☒" means to be chosen or applicable; "□" means don't to be chosen or not applicable; This note applies to entire report.

2.2. Accessories of EUT

Accessories	Manufacturer	Model number	Description
Adapter	NetBlt	NBS40C120300VU	Input: 100-240V~ 50/60Hz 1.0A Output: 12.0⎓V3.0A
Solar panel	Zhiwang Energy	ZW-145145-12V	/
Rechargeable Soeled Lead Acx, Batery	Powersonic	PS-640F1	Cycle use:DC 7.20-7.50V Standby use: DC 6.75-6.90V

2.3. Block diagram of EUT configuration for test



2.4. Decision of final test mode

According pre-test, the worst test modes were reported as below:

Test software: putty.exe

The test software was used to control EUT work in Continuous Tx mode, and select test channel, wireless mode as below table.

The pathloss of external cable: 0.5 dB (According to the manufacturer's claims)

Tested mode, channel, information			
Mode	Setting Tx Power	Channel	Frequency (MHz)
LoRa/CSS hopping on Tx mode	Default	CH0 to CH63	902.3 to 914.9
LoRa/CSS hopping off Tx mode	Default	CH0	902.3
	Default	CH32	908.7
	Default	CH63	914.9

2.5. Deviations of test standard

No deviation.

2.6. Test environment conditions

During the measurement the environmental conditions were within the listed ranges:

Temperature range:	+15℃ to +35 ℃
Humidity range:	20% to 75%
Pressure range:	86 kPa to106 kPa

Note: The specific temperature and humidity information of each test item refers to the temperature and humidity record in the corresponding test data.

2.7. Test laboratory

Guangdong Dongdian Testing Service Co., Ltd.

Add.: Unit 2, Building 1, No. 17, Zongbu 2nd Road, Songshan Lake Park, Dongguan, Guangdong, China, 523808.

Tel.: +86-0769-38826678, http://www.dgddt.com, Email: ddt@dgddt.com.

CNAS Accreditation No. L6451; A2LA Accreditation Number: 3870.01

FCC Designation Number: CN1182, Test Firm Registration Number: 540522

Innovation, Science and Economic Development Canada Site Registration Number: 10288A

Conformity Assessment Body identifier: CN0048

VCCI facility registration number: C-20087, T-20088, R-20123, R-20155, G-20118

2.8. Measurement uncertainty

Test Item	Uncertainty
Bandwidth	1.1%
Peak Output Power (Conducted) (Spectrum analyzer)	0.86 dB (10 MHz ≤ f < 3.6 GHz);
	1.38 dB (3.6 GHz ≤ f < 8 GHz)
Peak Output Power (Conducted) (Power Sensor)	0.74 dB
Power Spectral Density	0.74 dB (10 MHz ≤ f < 3.6 GHz);
	1.38 dB (3.6 GHz ≤ f < 8 GHz)
Frequencies Stability	6.7×10^{-8} (Antenna couple method)
	5.5×10^{-8} (Conducted method)
Conducted spurious emissions	0.86 dB (10 MHz ≤ f < 3.6 GHz);
	1.40 dB (3.6 GHz ≤ f < 8 GHz)
	1.66 dB (8 GHz ≤ f < 26.5 GHz)
Uncertainty for radio frequency (RBW < 20 kHz)	3×10^{-8}
Temperature	0.4 ℃
Humidity	2 %
Uncertainty for Radiation Emission test (9 kHz – 30 MHz)	3.44 dB
Uncertainty for Radiation Emission test (30 MHz - 1 GHz)	4.70 dB (Antenna Polarize: V)
	4.84 dB (Antenna Polarize: H)
Uncertainty for Radiation Emission test (1 GHz - 40 GHz)	4.10 dB (1 - 6 GHz)
	4.40 dB (6 GHz - 18 GHz)

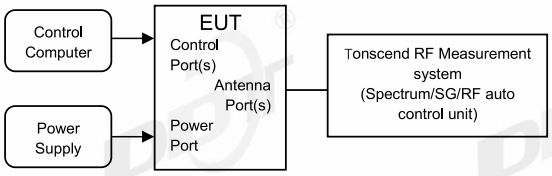
	3.54 dB (18 GHz - 26 GHz)
	4.30 dB (26 GHz - 40 GHz)
Uncertainty for Power line conduction emission test	3.34dB (150KHz-30MHz)
	3.72dB (9KHz-150KHz)
Note: This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.	

3. Equipment Used During Conductive Test

Equipment	Manufacturer	Model No.	Serial Number	Due Date
☒ RF Connected Test (RF Measurement System 2#)				
SPECTRUM ANALYZER	R&S	FSU26	201124	2025/07/08
Power Sensor	R&S	NRP-Z22	101254	2025/07/08
Test Software	Tonscend	JS1120-3	Ver.3.2.22	N/A

4. 20 dB Bandwidth

4.1. Block diagram of test setup



4.2. Limits

Intentional radiators operating under the alternative provisions to the general emission limits, as contained in § 15.217 through 15.257 and in Subpart E of this part, must be designed to ensure that the 20 dB bandwidth of the emission, or whatever bandwidth may otherwise be specified in the specific rule section under which the equipment operates, is contained within the frequency band designated in the rule section under which the equipment is operated.

4.3. Test procedure

(1) The test according to ANSI C63.10-2013 clause 6.9.2.
(2) Connect EUT's antenna output to spectrum analyzer by RF cable, the path loss was compensated to the results
(3) Set the EUT as maximum power setting and enable the EUT transmit continuously
(4) Use the following spectrum analyzer settings for the 20 dB bandwidth measurement:

RBW:	1% to 5% of the OBW
VBW:	approximately three times RBW
Span:	between 2 times and 5 times the OBW
Detector Mode:	Peak
Sweep time:	Auto
Trace mode:	Max hold

(5) Measure and record the results in the report.

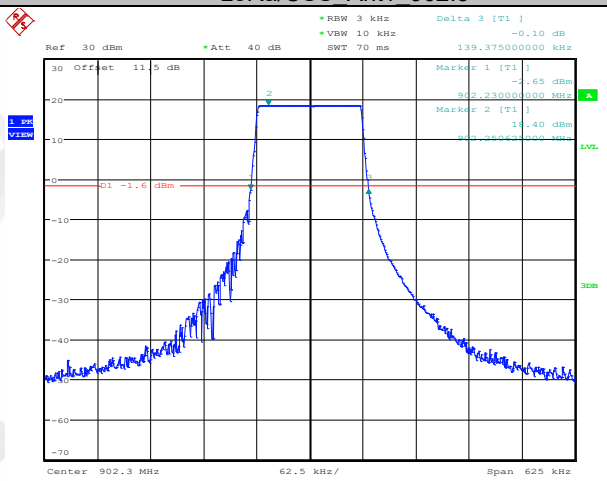
4.4. Test result

Test Engineer:	Haofeng	Test Site:	RF Measurement System 2#
Ambient Condition:	23.9℃,35.1%RH	Test Date:	2024.12.25~2024.12.26
Test Power Supply:	DC 12V	Sample Number:	S24092616-002

Test Mode	Antenna	Frequency [MHz]	20dB EBW[MHz]
LoRa/CSS	Ant1	902.3	0.14
		908.7	0.14
		914.9	0.14

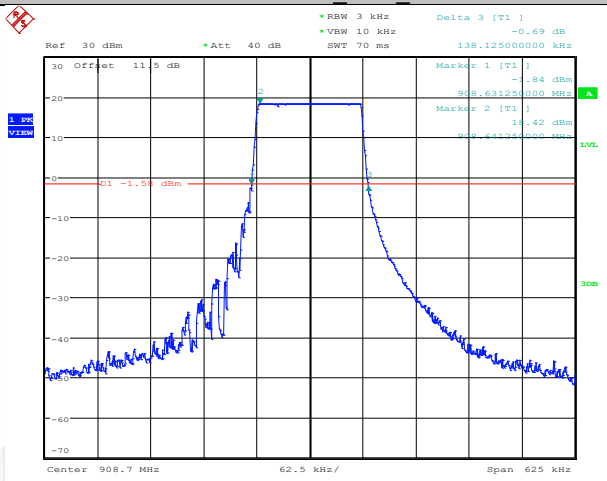
4.5. Test graphs

LoRa/CSS_Ant1_902.3



Date: 25.DEC.2024 22:56:50

LoRa/CSS_Ant1_908.7



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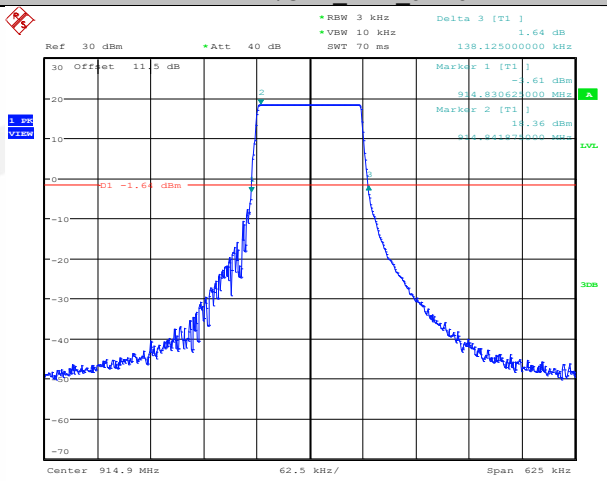
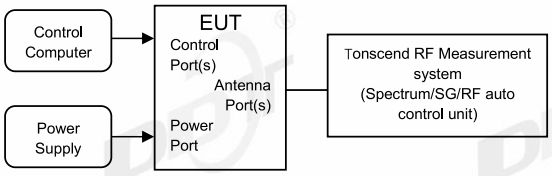
LoRa/CSS_Ant1_914.9



Date: 25.DEC.2024 23:08:03

5. 99% Bandwidth

5.1. Block diagram of test setup



5.2. Limits

Just for Report.

5.3. Test procedure

(1) The test according to ANSI C63.10-2013 clause 6.9.3.
(2) Connect EUT's antenna output to spectrum analyzer by RF cable, the path loss was compensated to the results
(3) Set the EUT as maximum power setting and enable the EUT transmit continuously
(4) Use the following spectrum analyzer settings for the 99% bandwidth measurement:

RBW:	1% to 5% of the OBW
VBW:	approximately three times RBW
Span:	between 1.5 times and 5.0 times the OBW
Detector Mode:	Peak
Sweep time:	Auto
Trace mode:	Max hold

(5) Measure and record the results in the report.

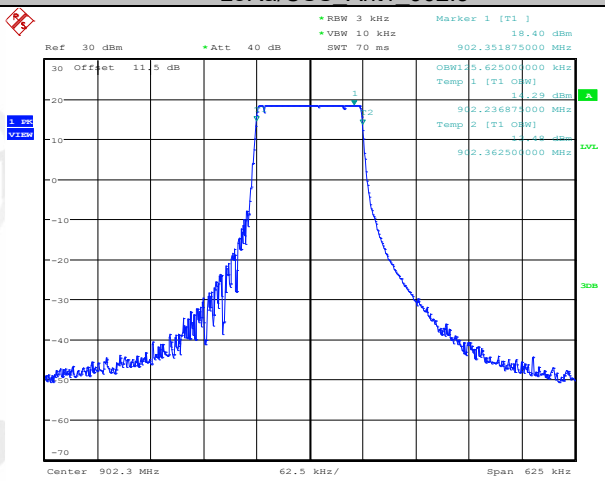
5.4. Test result

Test Engineer:	Haofeng	Test Site:	RF Measurement System 2#
Ambient Condition:	23.9℃,35.1%RH	Test Date:	2024.12.25~2024.12.26
Test Power Supply:	DC 12V	Sample Number:	S24092616-002

Test Mode	Antenna	Frequency [MHz]	OCB [MHz]	FL[MHz]	FH[MHz]
LoRa/CSS	Ant1	902.3	0.126	902.2369	902.3625
		908.7	0.126	908.6369	908.7625
		914.9	0.126	914.8363	914.9619

5.5. Test graphs

LoRa/CSS_Ant1_902.3



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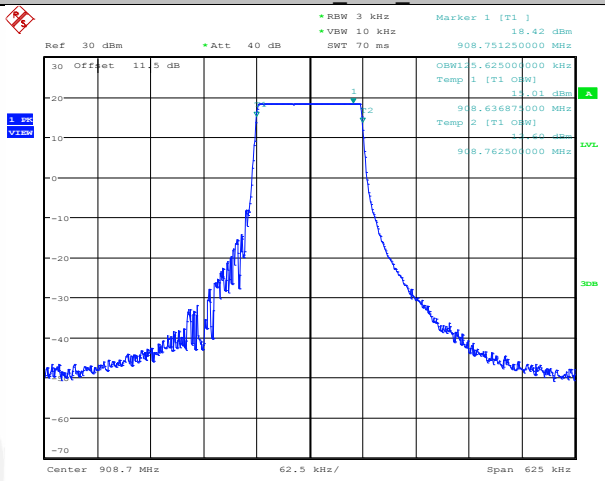
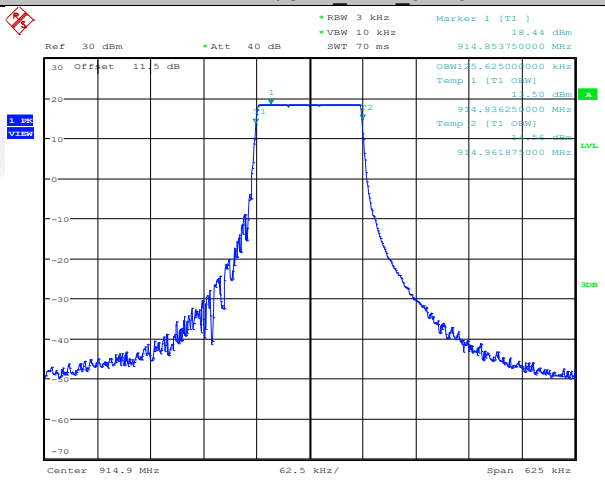
LoRa/CSS_Ant1_908.7



Date: 25.DEC.2024 23:03:30

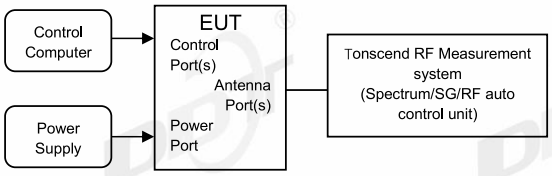
LoRa/CSS_Ant1_914.9



Date: 25.DEC.2024 23:08:54

6. Maximum Peak Output Power

6.1. Block diagram of test setup



6.2. Limits

For frequency hopping systems operating in the 902-928 MHz band: 1 watt for systems employing at least 50 hopping channels; and 0.25 watts for systems employing less than 50 hopping channels, but at least 25 hopping channels, as permitted under paragraph (a)(1)(i) of this section.

6.3. Test procedure

(1) The test according to ANSI C63.10-2013 clause 7.8.5.
(2) Connect EUT's antenna output to spectrum analyzer by RF cable, the path loss was compensated to the results.
(3) Set the EUT as maximum power setting and enable the EUT transmit continuously.
(4) Use the following spectrum analyzer settings for the maximum peak output power measurement:

RBW:	> 20 dB bandwidth of the emission being measured.
VBW:	VBW ≥ RBW.
Span:	Approximately five times the 20 dB bandwidth, centered on a hopping channel.
Detector Mode:	Peak
Sweep time:	Auto
Trace mode:	Max hold

(5) Use the marker-to-peak function to set the marker to the peak of the emission and record the results in the report.

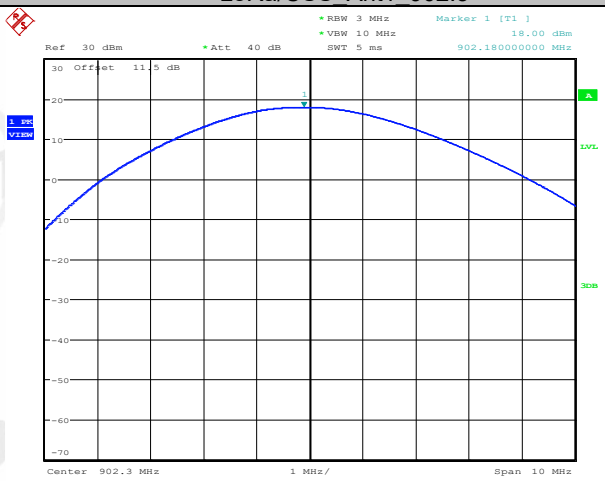
6.4. Test result

Test Engineer:	Haofeng	Test Site:	RF Measurement System 2#
Ambient Condition:	23.9℃,35.1%RH	Test Date:	2024.12.25~2024.12.26
Test Power Supply:	DC 12V	Sample Number:	S24092616-002

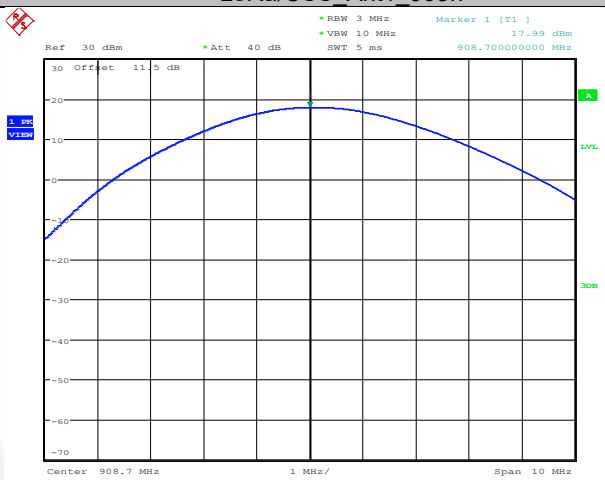
Test Mode	Antenna	Frequency [MHz]	Conducted Peak Power[dBm]	Conducted Limit[dBm]	Verdict
LoRa/CSS	Ant1	902.3	18.00	≤30	PASS
		908.7	17.99	≤30	PASS
		914.9	17.97	≤30	PASS

6.5. Test graphs

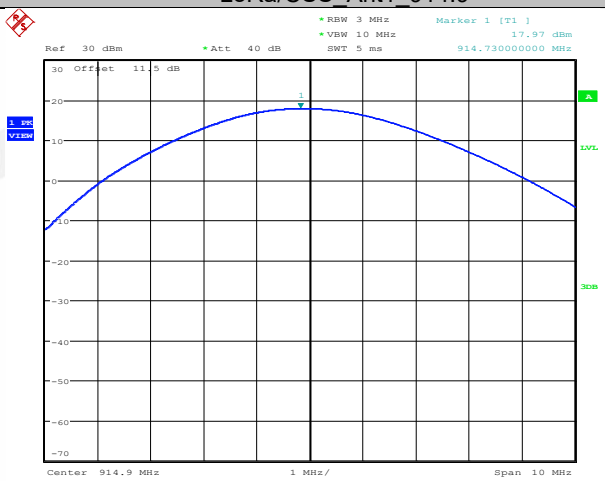
LoRa/CSS_Ant1_902.3



LoRa/CSS_Ant1_908.7

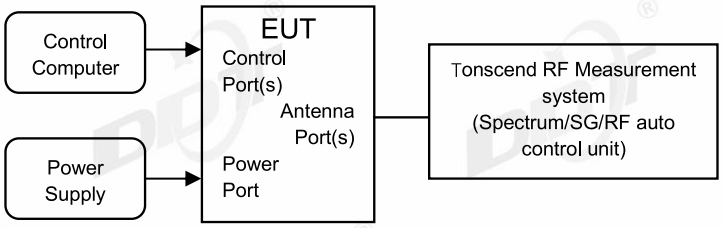


LoRa/CSS_Ant1_914.9



7. Carrier Frequency Separation

7.1. Block diagram of test setup



7.2. Limits

Frequency hopping systems shall have hopping channel carrier frequencies separated by a minimum of 25 kHz or the 20 dB bandwidth of the hopping channel, whichever is greater.

7.3. Test procedure

(1) The test according to ANSI C63.10-2013 clause 7.8.2.
(2) Connect EUT's antenna output to spectrum analyzer by RF cable, the path loss was compensated to the results.
(3) Set the EUT as maximum power setting and enable the EUT transmit continuously.
(4) Use the following spectrum analyzer settings for the maximum peak output power measurement:

RBW:	approximately 30% of the channel spacing
VBW:	VBW ≥ RBW.
Span:	Wide enough to capture the peaks of two adjacent channels.
Detector Mode:	Peak
Sweep time:	Auto
Trace mode:	Max hold

(5) Use the marker-delta function to determine the separation between the peaks of the adjacent channels and record the results in the report.

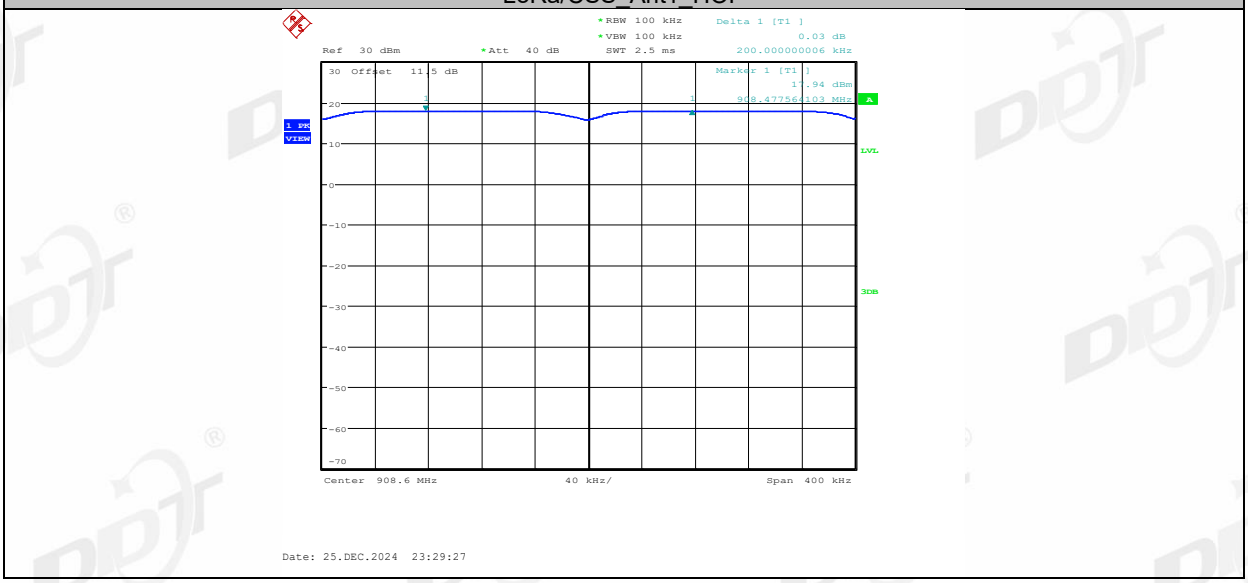
7.4. Test result

Test Engineer:	Haofeng	Test Site:	RF Measurement System 2#
Ambient Condition:	23.9℃,35.1%RH	Test Date:	2024.12.25~2024.12.26
Test Power Supply:	DC 12V	Sample Number:	S24092616-002

Test Mode	Frequency [MHz]	Result [MHz]	Limit [MHz]	Verdict
LoRa/CSS	hopping on	200	≥25	PASS

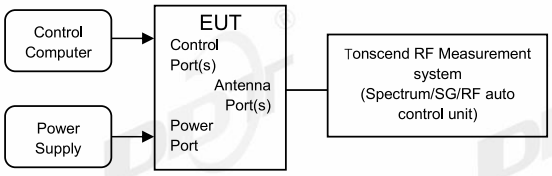
7.5. Test graphs

LoRa/CSS_Ant1_HOP



8. Dwell Time

8.1. Block diagram of test setup



8.2. Limits

The average time of occupancy on any channel shall not be greater than 0.4 seconds within a period of 0.4 seconds multiplied by the number of hopping channels employed.

8.3. Test procedure

(1) The test according to ANSI C63.10-2013 clause 7.8.4.
(2) Connect EUT's antenna output to spectrum analyzer by RF cable, the path loss was compensated to the results.
(3) Set the EUT as maximum power setting and enable the EUT transmit continuously.
(4) Use the following spectrum analyzer settings for the maximum peak output power measurement:

RBW:	≤ channel spacing and where possible RBW should be set >>1 / T
VBW:	VBW ≥ RBW.
Span:	Zero span, centered on a hopping channel.
Detector Mode:	Peak
Sweep time:	Auto
Trace mode:	Clear Write.

(5) The test period: T= 0.4 Second/Channel x 79 Channel = 31.6 s
(6) Measure the hopping number and on time of each pulse with spectrum analyzer in zero span set, and calculate dwell time with formula Dwell time = total hops *pulse's on time.
(7) Measure and record the results in the report.

8.4. Test result

Test Engineer:	Haofeng	Test Site:	RF Measurement System 2#
Ambient Condition:	23.9℃,35.1%RH	Test Date:	2024.12.25~2024.12.26
Test Power Supply:	DC 12V	Sample Number:	S24092616-002

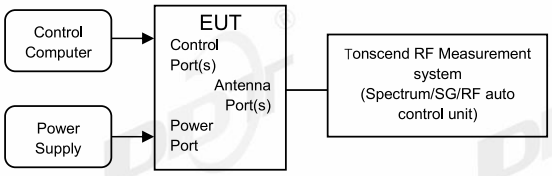
Test Mode	Antenna	Frequency [MHz]	BurstWidth [ms]	TotalHops [Num]	Result[s]	Limit[s]	Verdict
LoRa/CSS	Ant1	Hop	239.000	1.5625	0.373	≤0.4	PASS

8.5. Test graphs

LoRa/CSS_Ant1_Hop

9. Number of Hopping Channel

9.1. Block diagram of test setup



9.2. Limits

For frequency hopping systems operating in the 902–928 MHz band: 1 watt for systems employing at least 50 hopping channels.

9.3. Test procedure

(1) The test according to ANSI C63.10-2013 clause 7.8.3.
(2) Connect EUT's antenna output to spectrum analyzer by RF cable, the path loss was compensated to the results.
(3) Set the EUT as maximum power setting and enable the EUT transmit continuously.
(4) Use the following spectrum analyzer settings for the maximum peak output power measurement:

RBW:	RBW to less than 30% of the channel spacing or the 20 dB bandwidth, whichever is smaller.
VBW:	VBW ≥ RBW.
Span:	The frequency band of operation
Detector Mode:	Peak
Sweep time:	Auto
Trace mode:	Max hold

(5) Measure the hopping number and record the results in the report.
(6) Measure and record the results in the report.

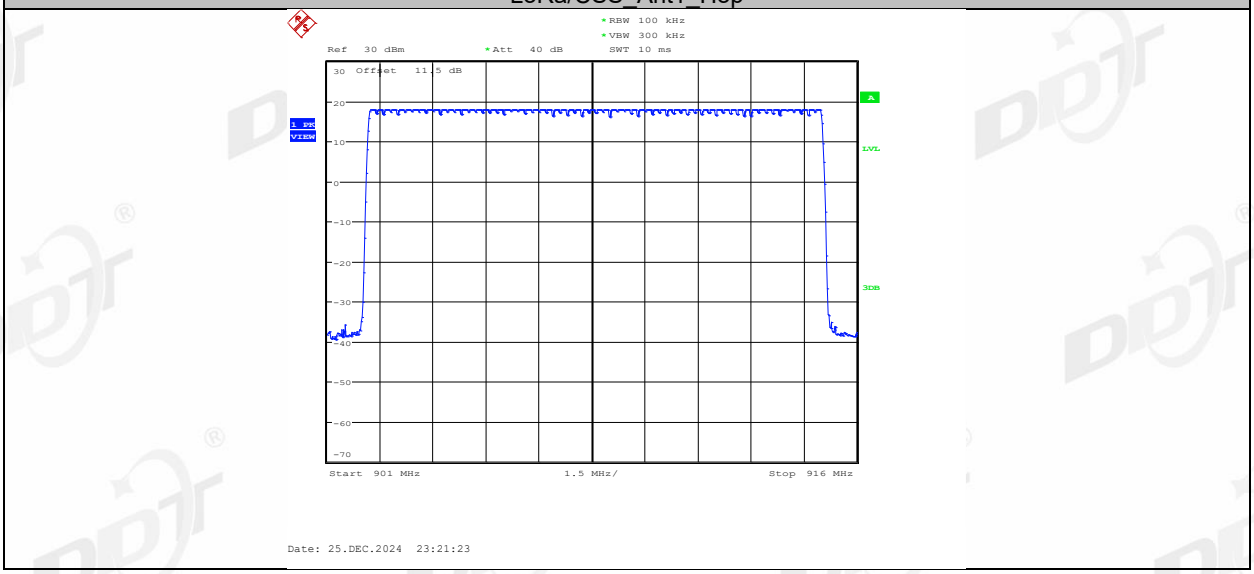
9.4. Test result

Test Engineer:	Haofeng	Test Site:	RF Measurement System 2#
Ambient Condition:	23.9℃,35.1%RH	Test Date:	2024.12.25~2024.12.26
Test Power Supply:	DC 12V	Sample Number:	S24092616-002

Test Mode	Antenna	Frequency [MHz]	Result [Num]	Limit [Num]	Verdict
LoRa/CSS	Ant1	Hop	64	≥50	PASS

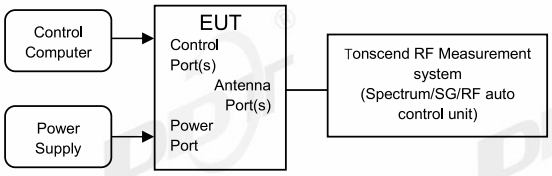
9.5. Test graphs

LoRa/CSS_Ant1_Hop



10. Band Edge Compliance (Conducted Method)

10.1. Block diagram of test setup



10.2. Limit

All restriction band should comply with 15.209, other emission should be at least 20dB below the fundamental.

10.3. Test procedure

(1) Connect EUT's antenna output to spectrum analyzer by RF cable.
(2) Establish a reference level by using the following procedure:

RBW:	100 kHz
VBW:	300 kHz
Span	Encompass frequency range to be measured
Detector Mode:	Peak
Sweep time:	Auto
Trace mode	Max hold

(3) Allow the trace to stabilize, use the peak marker function to determine the maximum peak power level to establish the reference level.
(4) Then mark the maximum amplitude of all unwanted emissions outside of the authorized frequency band.

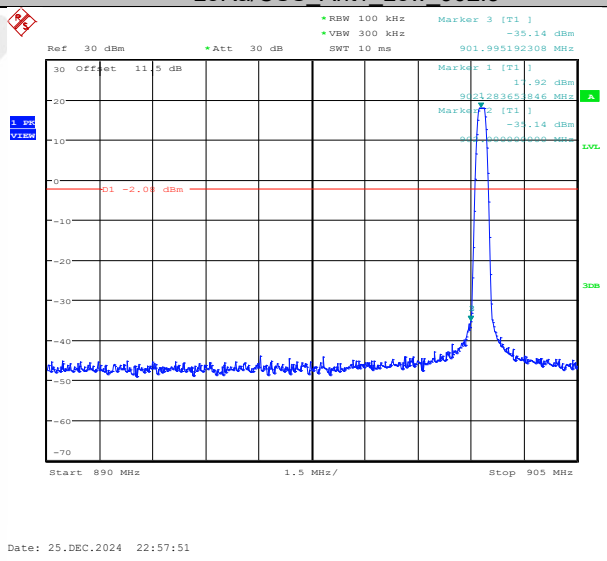
10.4. Test result

Test Engineer:	Haofeng	Test Site:	RF Measurement System 2#
Ambient Condition:	23.9℃,35.1%RH	Test Date:	2024.12.25~2024.12.26
Test Power Supply:	DC 12V	Sample Number:	S24092616-002

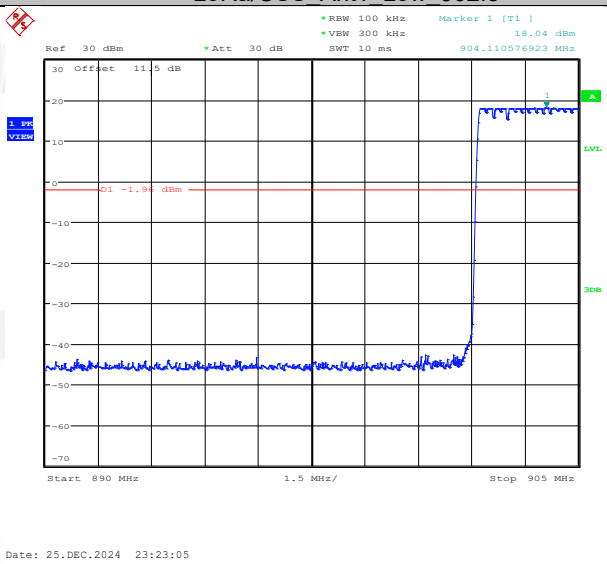
Mode	Freq. (MHz)	Verdict
LoRa/CSS	Hopping off 902.3	Pass
	Hopping off 914.9	Pass
	Hopping on	Pass

10.5. Test graphs

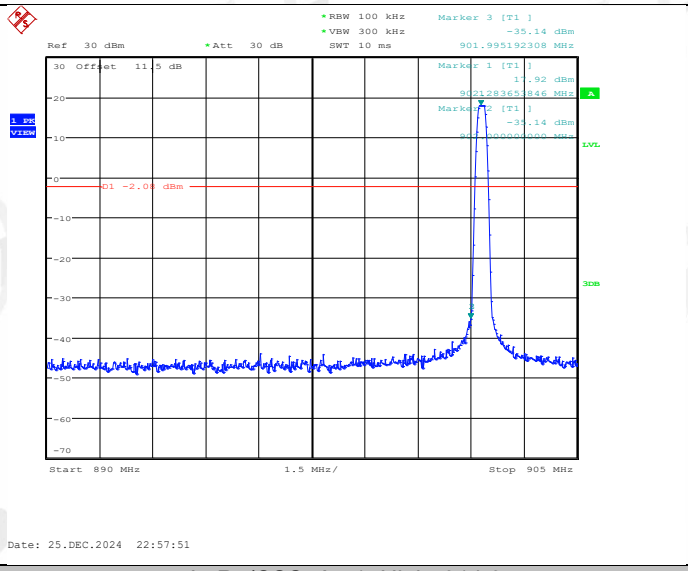
LoRa/CSS_Ant1_Low_902.3



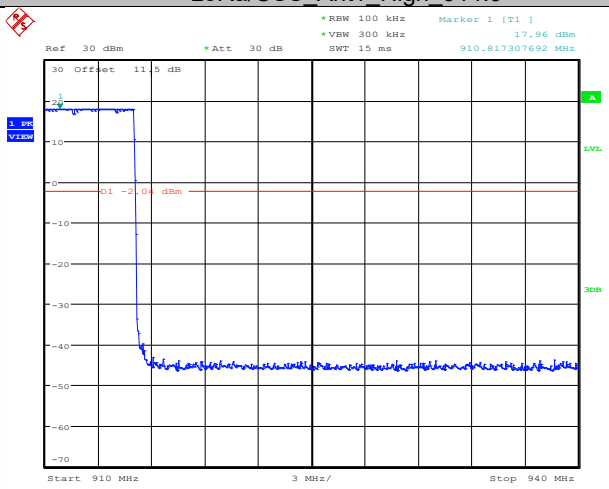
LoRa/CSS_Ant1_Low_902.3



LoRa/CSS_Ant1_High_914.9

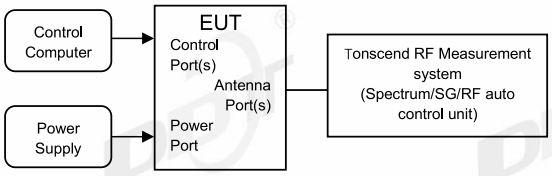


LoRa/CSS_Ant1_High_914.9



11. RF Conducted Spurious Emissions

11.1. Block diagram of test setup



11.2. Limits

In any 100 kHz bandwidth outside the frequency bands in which the spread spectrum intentional radiator in operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power.

11.3. Test procedure

(1) Connect EUT's antenna output to spectrum analyzer by RF cable.
(2) Establish a reference level by using the following procedure:

Center frequency	Test frequency
RBW:	100 kHz
VBW:	300 kHz
Span	Wide enough to capture the peak level of the in-band emission
Detector Mode:	Peak
Sweep time:	Auto
Trace mode	Max hold

(3) Allow the trace to stabilize, use the peak marker function to determine the maximum peak power level to establish the reference level.
(4) Set the spectrum analyzer as follows:

RBW:	100 kHz
VBW:	300 kHz
Span	Encompass frequency range to be measured
Number of measurement points	≥Span/RBW
Detector Mode:	Peak
Sweep time:	Auto
Trace mode	Max hold

Allow the trace to stabilize, use the peak marker function to determine the maximum amplitude of all unwanted emissions outside of the authorized frequency band

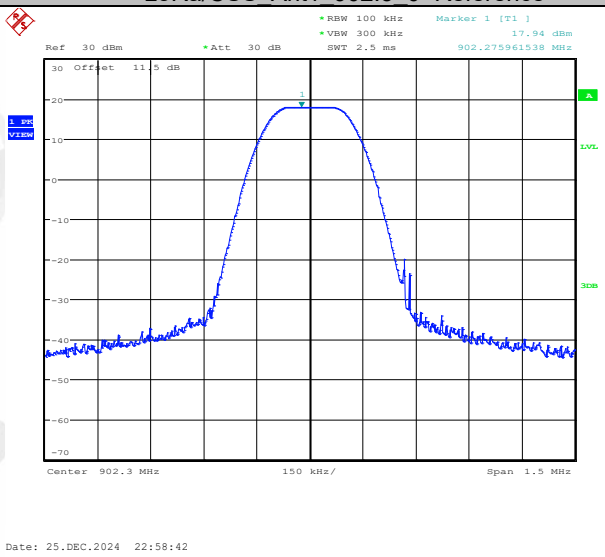
11.4. Test result

Test Engineer:	Haofeng	Test Site:	RF Measurement System 2#
Ambient Condition:	23.9℃,35.1%RH	Test Date:	2024.12.25~2024.12.26
Test Power Supply:	DC 12V	Sample Number:	S24092616-002

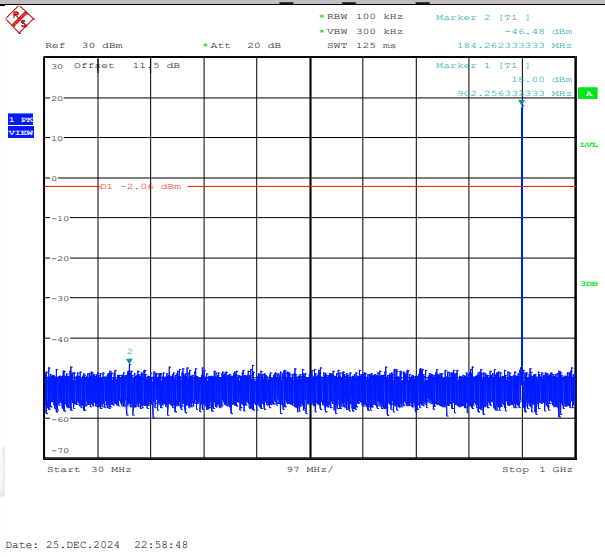
Mode	Freq. (MHz)	Verdict
LoRa/CSS	Hopping off 902.3	Pass
	Hopping off 908.7	Pass
	Hopping off 914.9	Pass

11.5. Test graphs

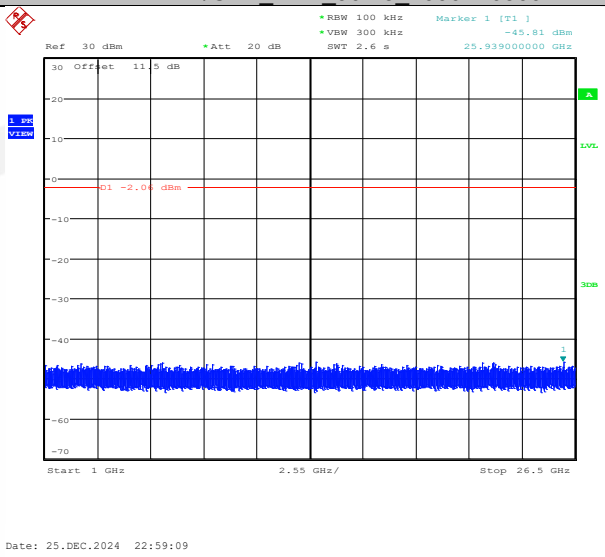
LoRa/CSS_Ant1_902.3_0~Reference



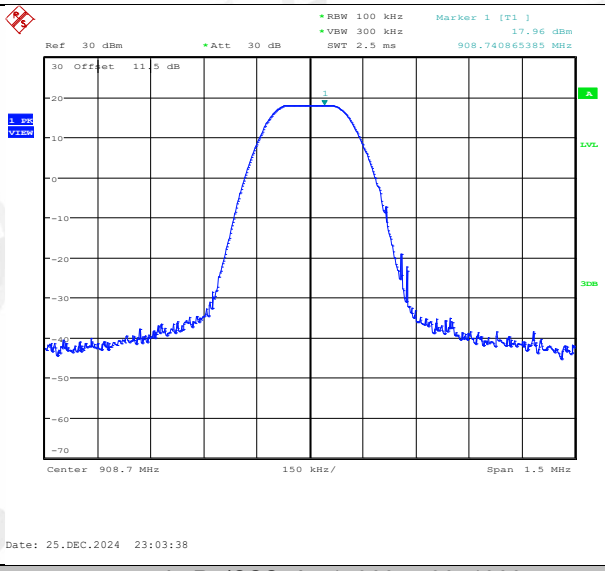
LoRa/CSS_Ant1_902.3_30~1000



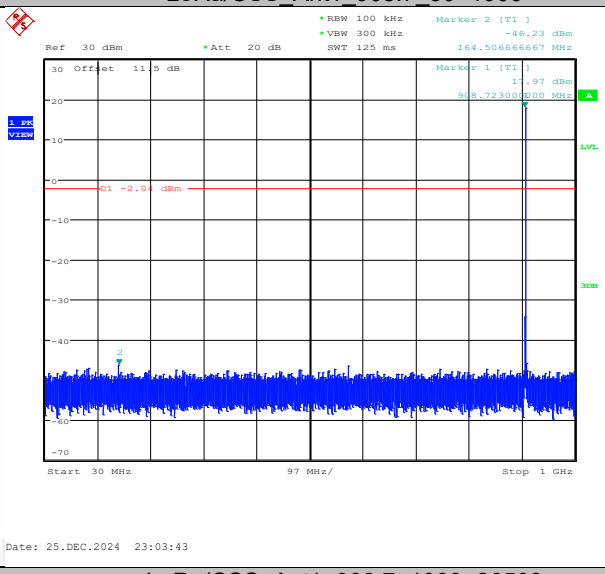
LoRa/CSS_Ant1_902.3_1000~26500



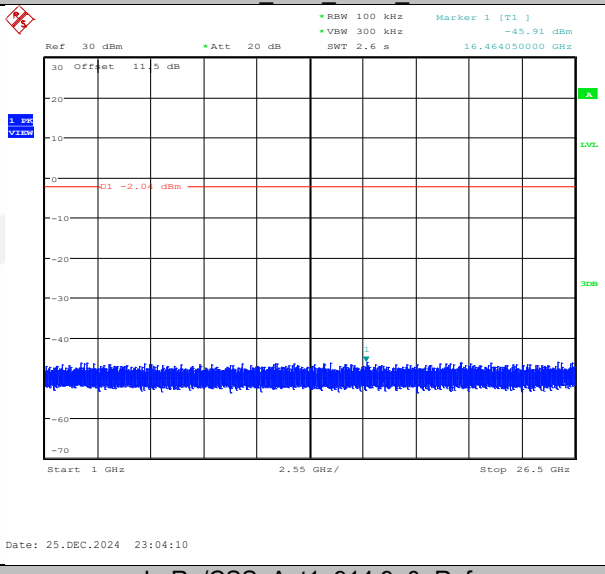
LoRa/CSS_Ant1_908.7_0~Reference



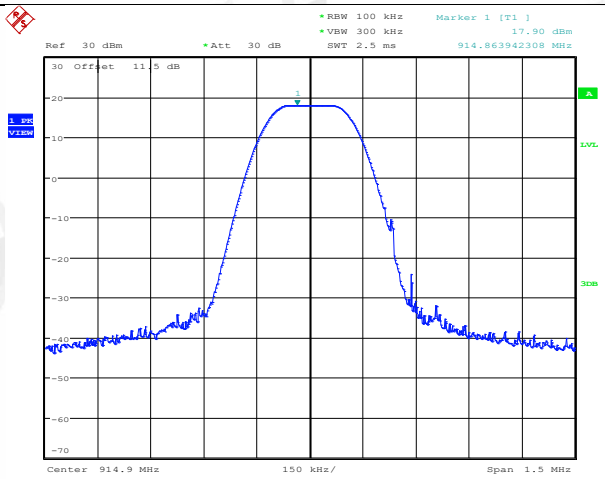
LoRa/CSS_Ant1_908.7_30~1000



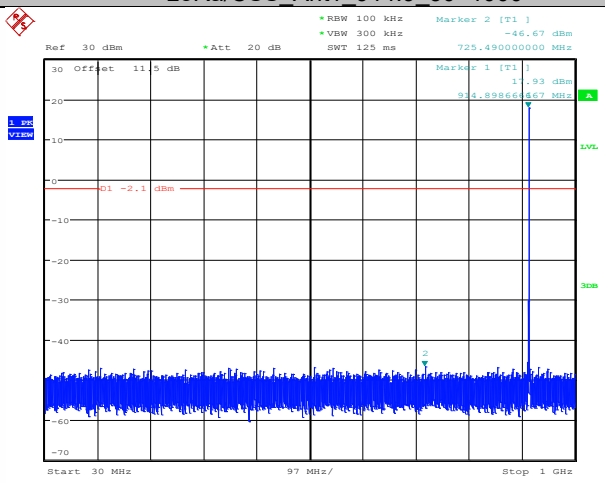
LoRa/CSS_Ant1_908.7_1000~26500



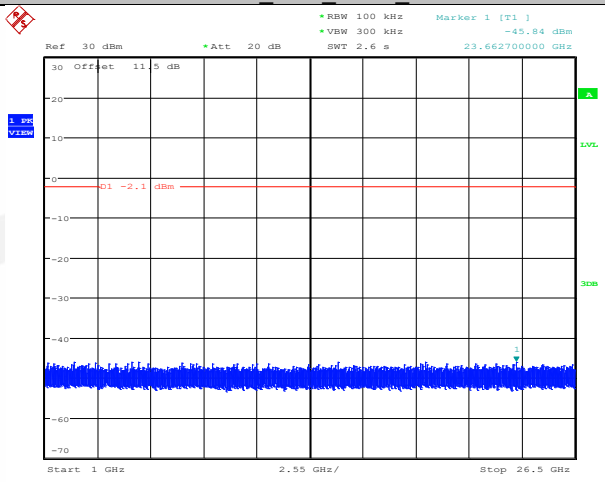
LoRa/CSS_Ant1_914.9_0~Reference



LoRa/CSS_Ant1_914.9_30~1000

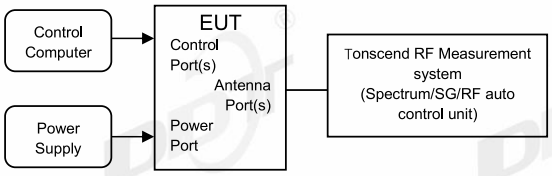


LoRa/CSS_Ant1_914.9_1000~26500



12. Duty cycle

12.1. Block diagram of test setup



12.2. Limit

Just for Report.

12.3. Test procedure

(1) Connected the EUT's antenna port to the Spectrum Analyzer by suitable attenuator, The cable loss and attenuator loss have been put into spectrum analyzer as amplitude offset.
set the Spectrum Analyzer as below:
Centre Frequency: The centre frequency of the middle hopping channel.
Resolution BW: 10 MHz.
Video BW: 10 MHz.
Span: Zero span.
Detector: Peak.
Trace Mode: Clear Write.
Sweep: Video Trigger

(2) When the trace is complete, measure the sending time of 1 burst and the duty cycle of 1 burst cycle.

(3) Calculate dwell time follow below formula:
Duty cycle= Pulse's on time / Burst cycle

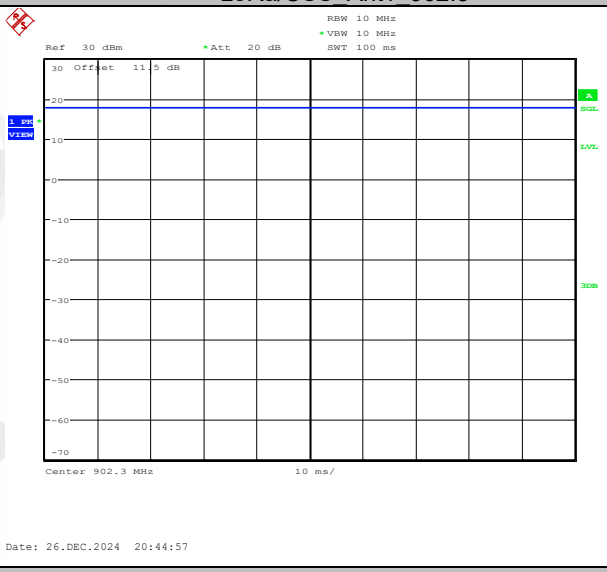
12.4. Test result

Test Engineer:	Haofeng	Test Site:	RF Measurement System 2#
Ambient Condition:	23.9℃,35.1%RH	Test Date:	2024.12.25~2024.12.26
Test Power Supply:	DC 12V	Sample Number:	S24092616-002

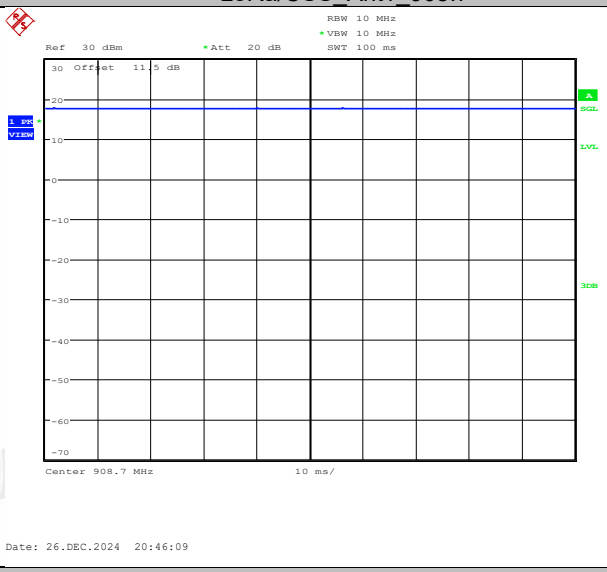
Test Mode	Antenna	Frequency [MHz]	ON Time [ms]	Period [ms]	Duty Cycle [%]	Duty Cycle Factor[dB]
LoRa/CSS	Ant1	902.3	100.00	100.00	100.00	0.00
		908.7	100.00	100.00	100.00	0.00
		914.9	100.00	100.00	100.00	0.00

12.5. Test graphs

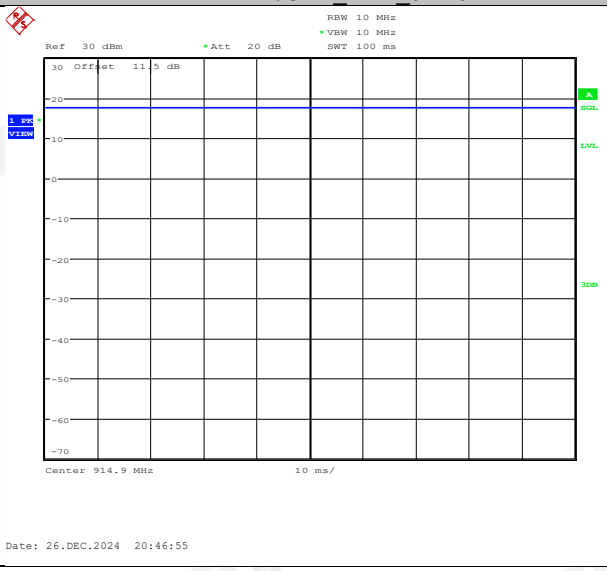
LoRa/CSS_Ant1_902.3



LoRa/CSS_Ant1_908.7



LoRa/CSS_Ant1_914.9



13. Antenna Requirements

13.1. Limit

For intentional device, according to FCC 47 CFR Section 15.203, an intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. And according to FCC 47 CFR Section 15.247 (b), if transmitting antennas of directional gain greater than 6 dBi are used, the power shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

13.2. Result

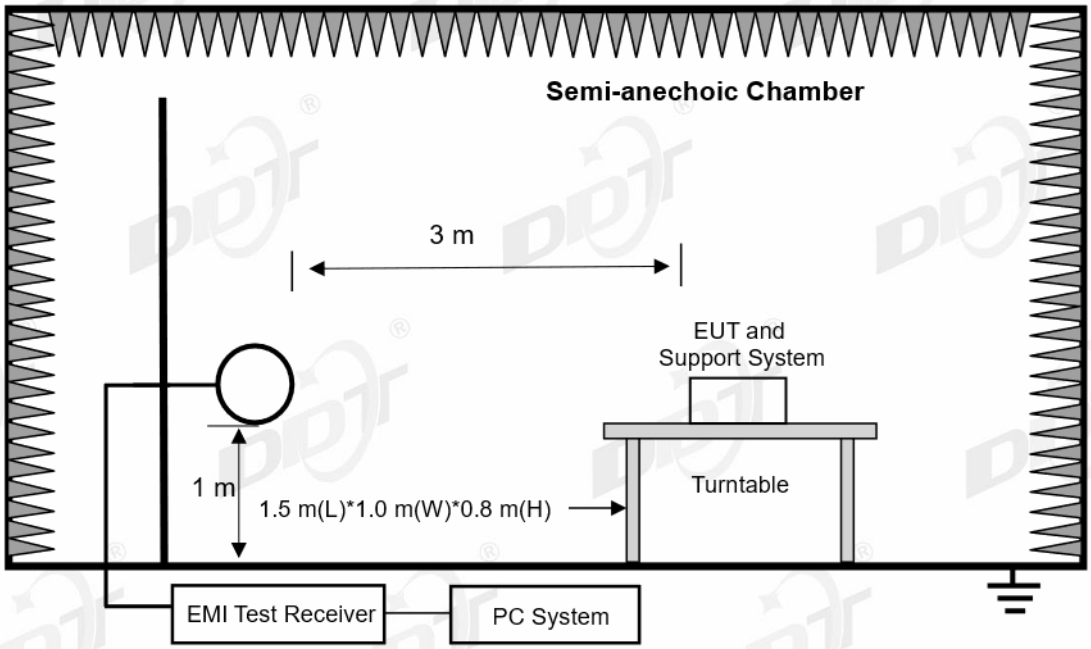
The antenna used for this product as Antenna information described in section 2.1 of the report, and there is no other antenna than that furnished by the responsible party shall be used with the device.

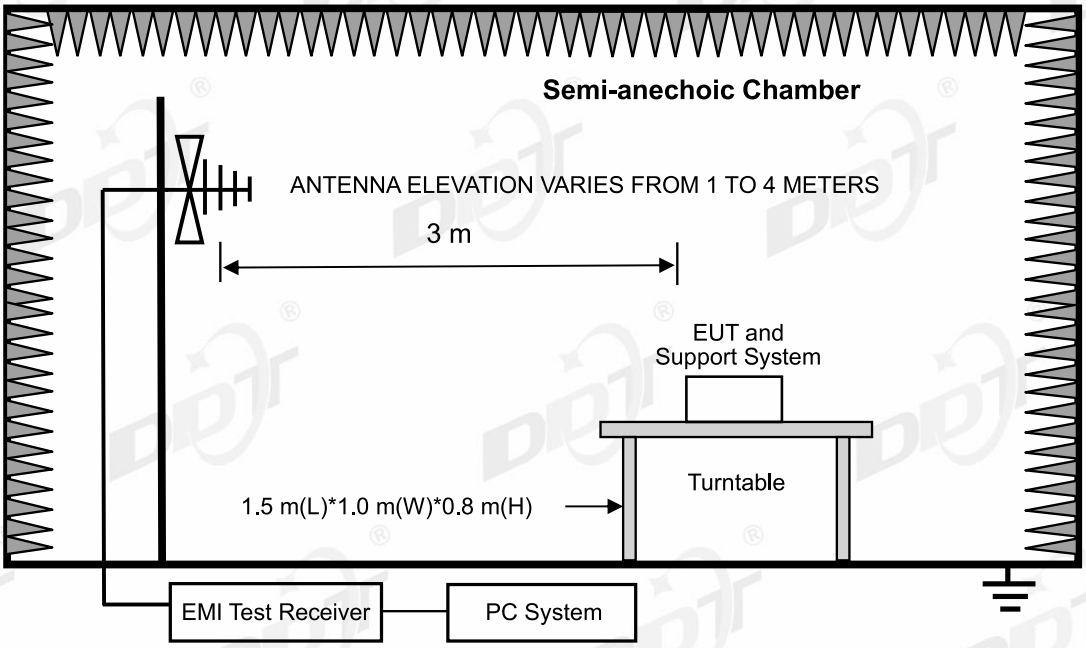
14.Radiated Emission

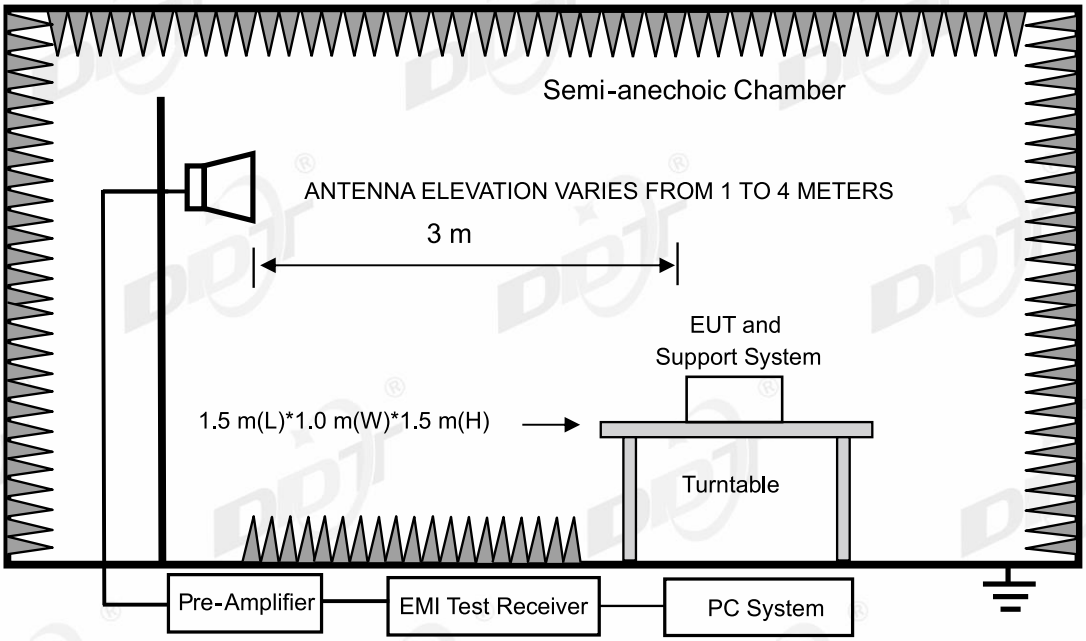
14.1. Test equipment

Equipment	Manufacturer	Model No.	Serial No.	Cal Due To
Micro-Tronics filters	REBES	BRM50702	DDT-ZC03242	/
Pre-amplifier	COM-POWER	PAM-118A	DDT-ZC01293	2025/08/25
Active Loop Antenna	Schwarzbeck	FMZB1519	DDT-ZC00524	2025/09/11
High pass filter	Micro-Tronics	HPM50102	DDT-ZC00561	2025/04/22
RF Cable	N/A	W13.02 AP1-X2	DDT-ZC04023	2025/03/31
EMI TEST RECEIVER	R&S	ESU26	DDT-ZC01909	2025/03/31
Broad-Band Horn Antenna	Schwarzbeck	BBHA 9170	DDT-ZC00506	2025/04/26
Hochgewinn-Hornantenne	SCHWARZBECK	BBHA 9120 D	DDT-ZC02129	2025/09/18
RF Cable	N/A	W24.02 HL-562	DDT-ZC04022	2025/03/31
Trilog Broadband Antenna	Schwarzbeck	VULB 9163	DDT-ZC02050	2025/07/11
High Pass filter	Xi'an Xingbo	XBLBQ-GTA67	DDT-ZC02179	2025/04/22
Micro-Tronics filters	REBES	BRM50716	DDT-ZC03240	/
High pass filter	Micro-Tronics	HPM50108	DDT-ZC00560	2025/04/22
Pre-amplifier	COM-POWER	PAM-840A	DDT-ZC01693	2025/03/31
PSA Series Spectrum Analyzer	Agilent	E4447A	DDT-ZC00517	2025/03/31
RF cable	Zhongke Junchuang	JCT26S-NJ-NJ-1.5M	DDT-ZC02762	2025/03/31
RF cable	Yuhu Technology	ZT26S-SMAJ-SMAJ-1M	DDT-ZC02037	2025/03/31
RF cable	Yuhu Technology	JCTB810-NJ-NJ-9M	DDT-ZC02538	2025/03/31

14.2. Block diagram of test setup







14.3. Limits

(1) FCC 15.205 Restricted frequency band

MHz	MHz	MHz	GHz
0.090-0.110	16.42-16.423	399.9-410	4.5-5.15
[1]0.495-0.505	16.69475-16.69525	608-614	5.35-5.46
2.1735-2.1905	16.80425-16.80475	960-1240	7.25-7.75
4.125-4.128	25.5-25.67	1300-1427	8.025-8.5
4.1772&4.17775	37.5-38.25	1435-1626.5	9.0-9.2
4.2072&4.20775	73-74.6	1645.5-1646.5	9.3-9.5
6.215-6.218	74.8-75.2	1660-1710	10.6-12.7
6.26775-6.26825	108-121.94	1718.8-1722.2	13.25-13.4
6.31175-6.31225	123-138	2200-2300	14.47-14.5
8.291-8.294	149.9-150.05	2310-2390	15.35-16.2
8.362-8.366	156.52475-156.52525	2483.5-2500	17.7-21.4
8.37625-8.38675	156.7-156.9	2690-2900	22.01-23.12
8.41425-8.41475	162.0125-167.17	3260-3267	23.6-24.0
12.29-12.293	167.72-173.2	3332-3339	31.2-31.8
12.51975-12.52025	240-285	3345.8-3358	36.43-36.5
12.57675-12.57725	322-335.4	3600-4400	([2])
13.36-13.41			

1Until February 1, 1999, this restricted band shall be 0.490-0.510 MHz

2Above 38.6

(2) FCC 15.209 Limit

FREQUENCY MHz	DISTANCE Meters	FIELD STRENGTHS LIMIT	
		uV/m	dBuV/m
0.009 ~ 0.490	300	2400/F(kHz)	67.6-20log(F)
0.490 ~ 1.705	30	24000/F(kHz)	87.6-20log(F)
1.705 ~ 30.0	30	30	29.54
30 ~ 88	3	100	40.0
88 ~ 216	3	150	43.5
216 ~ 960	3	200	46.0
960 ~ 1000	3	500	54.0
Above 1000	3	74.0 dBuV/m (Peak) 54.0 dBuV/m (Average)	

Note:

(1) The emission limits shown in the above table are based on measurements employing a CISPR QP detector except for the frequency bands 9 - 90 kHz, 110 - 490 kHz and above 1000 MHz, radiated emissions limits in these three bands are based on measurements employing an average detector.

(2) At frequencies below 30 MHz, measurement may be performed at a distance closer than that specified, and the limit at closer measurement distance can be extrapolated by below formula:

$$Limit_{3m}(dBuV/m) = Limit_{30m}(dBuV/m) + 40Log(30m/3m)$$

(3) Limit for this EUT

The emissions appearing within 15.205 restricted frequency bands shall not exceed the limits shown in 15.209, all the other emissions shall be at least 20 dB below the fundamental emissions or comply with 15.209 limits.

14.4. Assistant equipment used for test

Assistant equipment	Manufacturer	Model number	Description	other
/	/	/	/	/

14.5. Test procedure

(1) EUT was placed on a non-metallic table, 80 cm above the ground plane inside a semi-anechoic chamber for below 1G and 150 cm above the ground plane inside a fully-anechoic chamber for above 1G.

(2) Test antenna was located 3 m from the EUT on an adjustable mast, and the antenna used as below table.

Test frequency range	Test antenna used	Test antenna distance
9 kHz - 30 MHz	Active Loop antenna	3 m
30 MHz - 1 GHz	Trilog Broadband Antenna	3 m
1 GHz - 18 GHz	Double Ridged Horn Antenna(1 GHz-18 GHz)	3 m

18 GHz - 40 GHz	Horn Antenna(18 GHz-40 GHz)	1 m

According ANSI C63.10:2013 clause 6.4.6 and 6.5.3, for measurements below 30 MHz, Antenna was located 3 m from EUT, the loop antenna was positioned in three antenna orientations (parallel, perpendicular, and round-parallel), for each measurement antenna alignment, the EUT shall be rotated through 0° to 360° on a turntable, and the lowest height of the magnetic antenna shall be 1 m above the ground. For measurement above 30MHz, the trilog Broadband Antenna or Horn Antenna was located 3m from EUT, Measurements were made with the antenna positioned in both the horizontal and vertical planes of Polarization, and the measurement antenna was varied from 1 m to 4 m. in height above the reference ground plane to obtain the maximum signal strength.

(3) Below pre-scan procedure was first performed in order to find prominent frequency spectrum radiated emissions from 9 kHz to 25 GHz:

(a) Scanning the peak frequency spectrum with the antenna specified in step (3), and the EUT was rotated 360 degree, the antenna height was varied from 1 m to 4 m (Except loop antenna, it's fixed 1 m above ground.)

(b) Change work frequency or channel of device if practicable.

(c) Change modulation type of device if practicable.

(d) Change power supply range from 85% to 115% of the rated supply voltage

(e) Rotated EUT though three orthogonal axes to determine the attitude of EUT arrangement produces highest emissions.

Spectrum frequency from 9 kHz to 25 GHz (tenth harmonic of fundamental frequency) was investigated, and no any obvious emission were detected from 18 GHz to 25 GHz, so below final test was performed with frequency range from 9 kHz to 18 GHz.

(4) For final emissions measurements at each frequency of interest, the EUT was rotated and the antenna height was varied between 1 m and 4 m in order to maximize the emission. Measurements in both horizontal and vertical polarities were made and the data was recorded. In order to find the maximum emission, the relative positions of equipment and all of the interface cables were changed according to ANSI C63.10:2013 on Radiated Emission test.

(5) The emissions from 9 kHz to 1 GHz were measured based on CISPR QP detector except for the frequency bands 9 - 90 kHz, 110 - 490 kHz, for emissions from 9 kHz - 90 kHz,110 kHz - 490 kHz and above 1 GHz were measured based on average detector, for emissions above 1 GHz, peak emissions also be measured and need comply with Peak limit.

(6) The emissions from 9 kHz to 1 GHz, QP or average values were measured with EMI receiver with below RBW.

Frequency band	RBW
9 kHz - 150 kHz	200 Hz
150 kHz - 30 MHz	9 kHz
30 MHz - 1 GHz	120 kHz

(7) For emissions above 1GHz, both Peak and Average level were measured with Spectrum Analyzer, and the RBW is set at 1 MHz, VBW is set at 3 MHz for Peak measure; According ANSI C63.10:2013 clause 4.1.4.2.2 procedure for average measure.

(8) For portable device, X axis, Y axis, Z axis are tested, and worse setup is reported.

(9) According exploratory test, the emission levels are 20 dB below the limit detected from 9 kHz to 30 MHz and 18 GHz to 25 GHz, so the final test was performed with frequency range from 30 MHz to 18 GHz and recorded in below.

(10) For emissions below 1 GHz, according exploratory explorer test, when change Tx mode and channel, have no distinct influence on emissions level, so for emissions below 1 GHz, the final test was only performed with EUT working in worst mode.

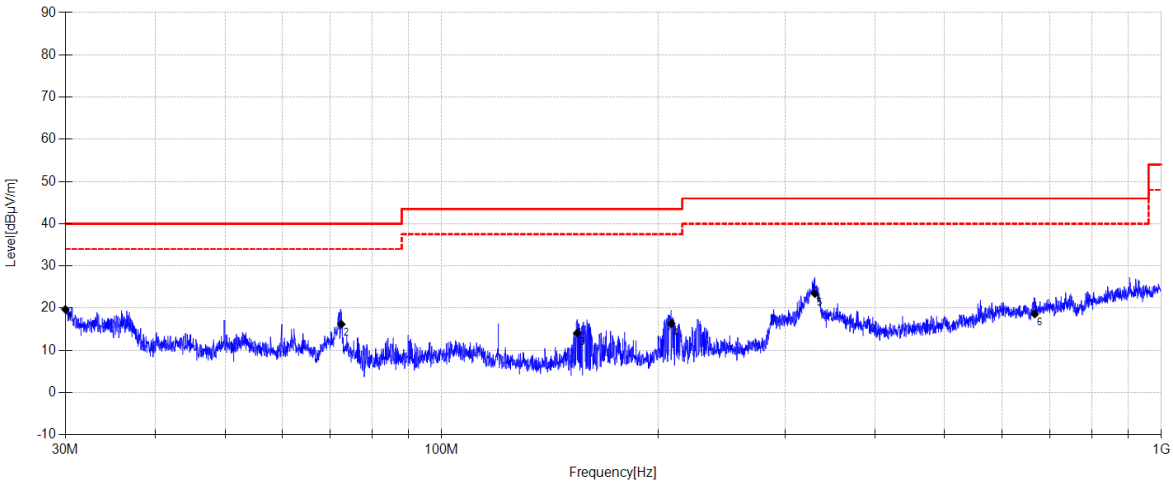
14.6. Test result

PASS. (See below detailed test result)

14.7. Test data

TR-4-E-009 Radiated Emission Test Result

Test Date:	2024-12-23	**Tested By**:	Genliu
EUT:	wireless internet gateway	**Model Number**:	GW3
Test Mode:	LoRa-64channels	**Power Supply**:	DC 12V
Condition:	Temp:21.2°C;Humi:52.7%	**Test Site**:	DDT 3# Chamber
File Path:	d:\ts\2024 report data\Q24092616-2E\FCC BELOW 1G\20241223-223532_H		
Memo:	Sample Number:S24042326 (PCB Antenna)		

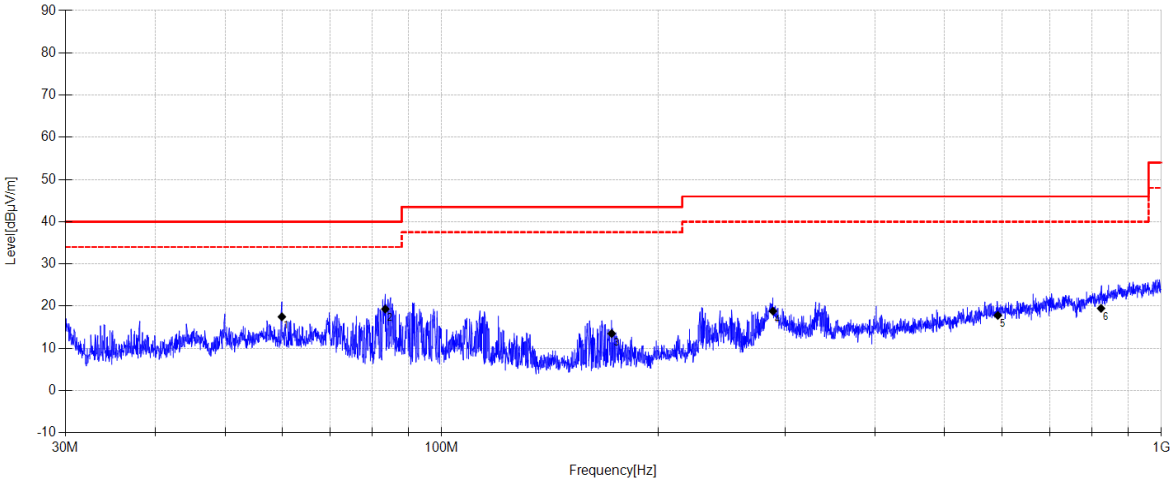


Data List									
NO.	**Freq. [MHz]**	**Reading [dBµV/m]**	**Antenna Factor [dB]**	**Cable Loss [dB]**	**Result [dBµV/m]**	**Limit [dBµV/m]**	**Margin [dB]**	**Detector**	**Polarity**
1	30.000	36.76	10.30	3.76	19.72	40.00	20.28	QP	Horizontal
2	72.528	33.86	9.39	4.04	16.19	40.00	23.81	QP	Horizontal
3	154.336	31.74	9.03	4.51	14.13	43.50	29.37	QP	Horizontal
4	208.499	32.23	10.53	4.80	16.34	43.50	27.16	QP	Horizontal
5	330.037	35.24	14.30	5.34	23.46	46.00	22.54	QP	Horizontal
6	666.792	24.13	19.43	6.58	18.64	46.00	27.36	QP	Horizontal

Note:
1. Result Level = Reading + Cable loss + Antenna Factor + AMP
2. If Peak Result complies with QP limit, QP Result is deemed to comply with QP limit.
3. Test setup: RBW: 120 kHz, VBW: 300 kHz, Sweep time: auto.

TR-4-E-009 Radiated Emission Test Result

Test Date:	2024-12-23	**Tested By**:	Genliu
EUT:	wireless internet gateway	**Model Number**:	GW3
Test Mode:	LoRa-64channels	**Power Supply**:	DC 12V
Condition:	Temp:21.2°C;Humi:52.7%	**Test Site**:	DDT 3# Chamber
File Path:	d:\ts\2024 report data\Q24092616-2E\FCC BELOW 1G\20241223-223548_V		
Memo:	Sample Number:S24042326 (PCB Antenna)		



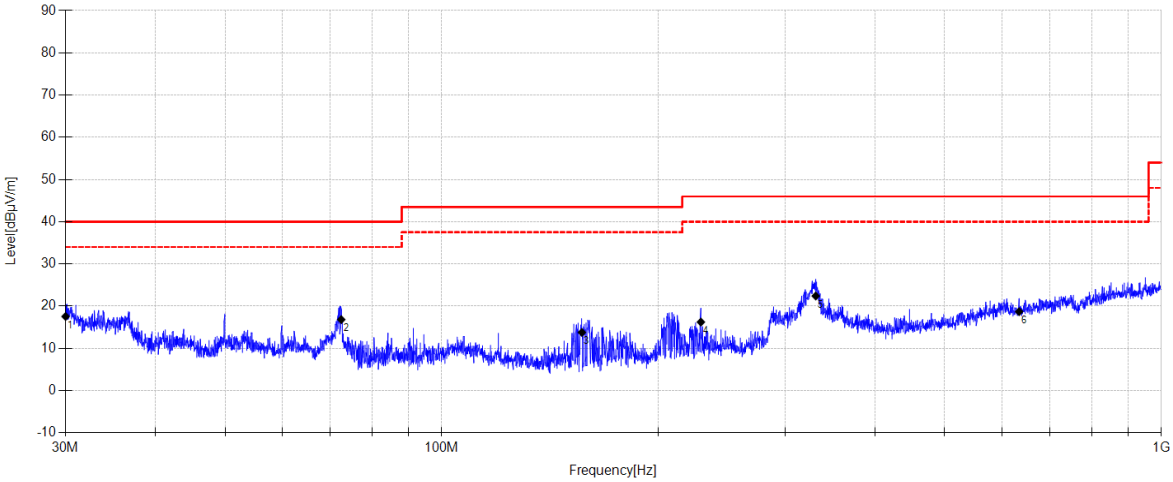
Data List

NO.	Freq. [MHz]	Reading [dBµV/m]	Antenna Factor [dB]	Cable Loss [dB]	Result [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Detector	Polarity
1	59.977	31.83	12.79	3.96	17.48	40.00	22.52	QP	Vertical
2	83.505	37.35	8.95	4.11	19.31	40.00	20.69	QP	Vertical
3	172.297	30.75	9.32	4.61	13.51	43.50	29.99	QP	Vertical
4	288.669	32.1	12.93	5.17	18.82	46.00	27.18	QP	Vertical
5	592.696	24.3	18.66	6.34	17.80	46.00	28.20	QP	Vertical
6	824.629	23	20.38	7.01	19.47	46.00	26.53	QP	Vertical

Note:
1. Result Level = Reading + Cable loss + Antenna Factor + AMP
2. If Peak Result complies with QP limit, QP Result is deemed to comply with QP limit.
3. Test setup: RBW: 120 kHz, VBW: 300 kHz, Sweep time: auto.

TR-4-E-009 Radiated Emission Test Result

Test Date:	2024-12-23	**Tested By**:	Genliu
EUT:	wireless internet gateway	**Model Number**:	GW3
Test Mode:	LoRa-64channels	**Power Supply**:	DC 12V
Condition:	Temp:21.2°C;Humi:52.7%	**Test Site**:	DDT 3# Chamber
File Path:	d:\ts\2024 report data\Q24092616-2E\FCC BELOW 1G\20241223-224033_H		
Memo:	Sample Number:S24042326 (3dBi Antenna)		

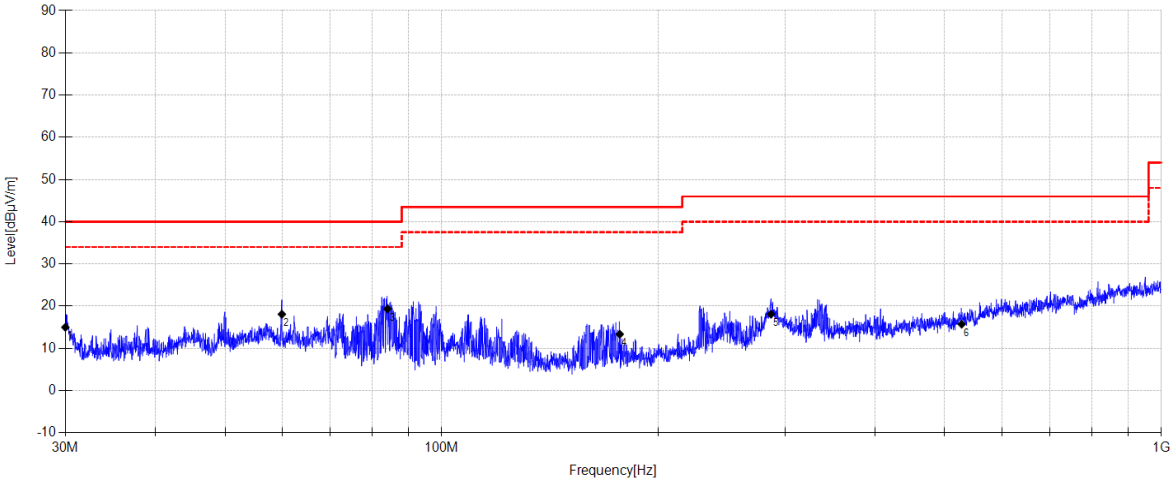


Data List									
NO.	**Freq. [MHz]**	**Reading [dBµV/m]**	**Antenna Factor [dB]**	**Cable Loss [dB]**	**Result [dBµV/m]**	**Limit [dBµV/m]**	**Margin [dB]**	**Detector**	**Polarity**
1	30.021	34.59	10.30	3.76	17.55	40.00	22.45	QP	Horizontal
2	72.528	34.49	9.39	4.04	16.82	40.00	23.18	QP	Horizontal
3	156.626	32.16	8.25	4.53	13.78	43.50	29.72	QP	Horizontal
4	229.200	30.88	11.72	4.89	16.23	46.00	29.77	QP	Horizontal
5	330.963	34.12	14.36	5.34	22.40	46.00	23.60	QP	Horizontal
6	634.410	25.14	18.58	6.48	18.70	46.00	27.30	QP	Horizontal

Note:
1. Result Level = Reading + Cable loss + Antenna Factor + AMP
2. If Peak Result complies with QP limit, QP Result is deemed to comply with QP limit.
3. Test setup: RBW: 120 kHz, VBW: 300 kHz, Sweep time: auto.

TR-4-E-009 Radiated Emission Test Result

Test Date:	2024-12-23	**Tested By**:	Genliu
EUT:	wireless internet gateway	**Model Number**:	GW3
Test Mode:	LoRa-64channels	**Power Supply**:	DC 12V
Condition:	Temp:21.2°C;Humi:52.7%	**Test Site**:	DDT 3# Chamber
File Path:	d:\ts\2024 report data\Q24092616-2E\FCC BELOW 1G\20241223-224049_V		
Memo:	Sample Number:S24042326 (3dBi Antenna)		

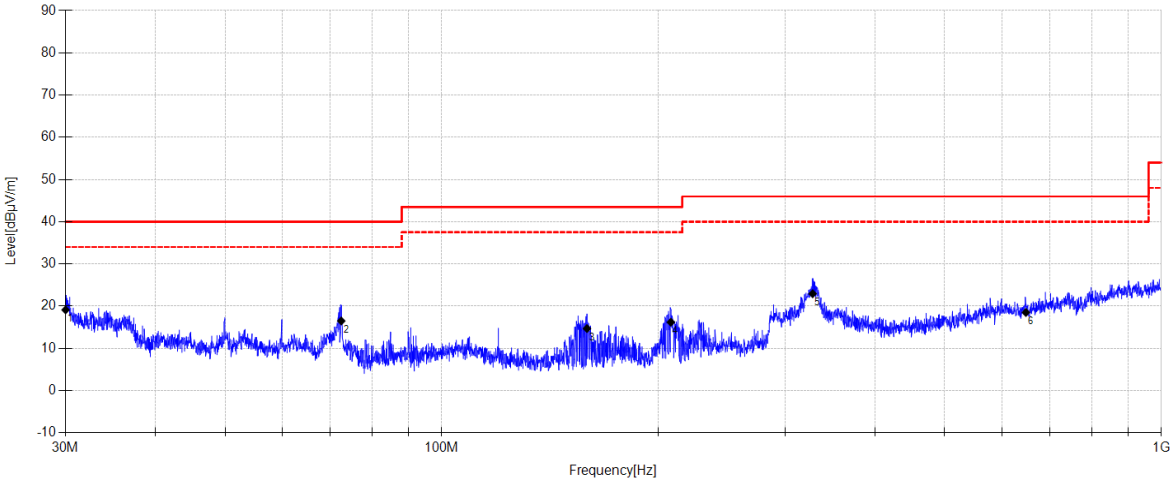


Data List									
NO.	**Freq. [MHz]**	**Reading [dBµV/m]**	**Antenna Factor [dB]**	**Cable Loss [dB]**	**Result [dBµV/m]**	**Limit [dBµV/m]**	**Margin [dB]**	**Detector**	**Polarity**
1	30.000	32.03	10.30	3.76	14.99	40.00	25.01	QP	Vertical
2	59.977	32.44	12.79	3.96	18.09	40.00	21.91	QP	Vertical
3	84.093	37.68	8.66	4.11	19.35	40.00	20.65	QP	Vertical
4	176.825	30.18	9.72	4.63	13.35	43.50	30.15	QP	Vertical
5	286.853	31.72	12.57	5.16	18.08	46.00	27.92	QP	Vertical
6	527.943	23.5	17.62	6.10	15.72	46.00	30.28	QP	Vertical

Note:
1. Result Level = Reading + Cable loss + Antenna Factor + AMP
2. If Peak Result complies with QP limit, QP Result is deemed to comply with QP limit.
3. Test setup: RBW: 120 kHz, VBW: 300 kHz, Sweep time: auto.

TR-4-E-009 Radiated Emission Test Result

Test Date:	2024-12-23	**Tested By**:	Genliu
EUT:	wireless internet gateway	**Model Number**:	GW3
Test Mode:	LoRa-64channels	**Power Supply**:	DC 12V
Condition:	Temp:21.2°C;Humi:52.7%	**Test Site**:	DDT 3# Chamber
File Path:	d:\ts\2024 report data\Q24092616-2E\FCC BELOW 1G\20241223-224512_H		
Memo:	Sample Number:S24042326 (5dBi Antenna)		



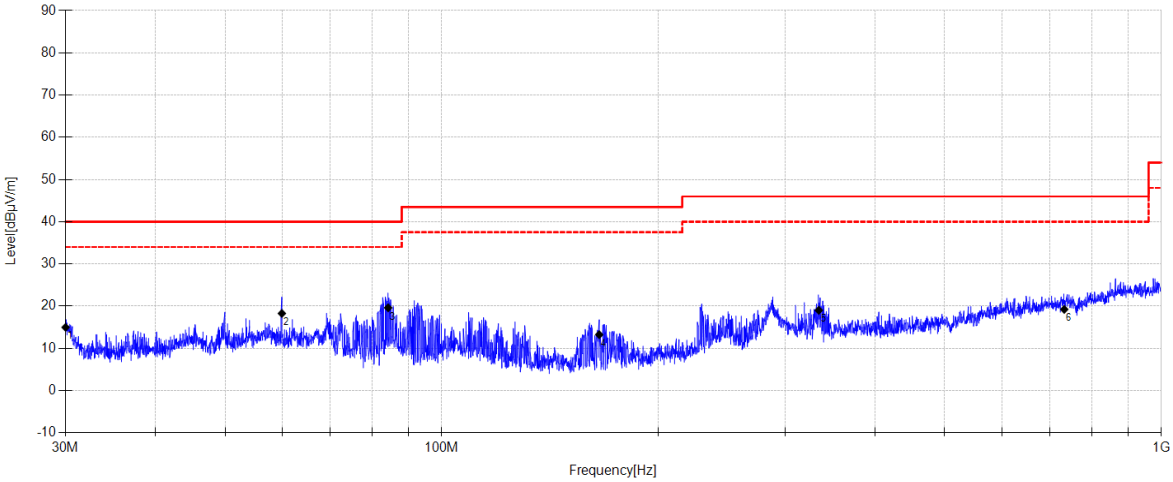
Data List

NO.	Freq. [MHz]	Reading [dBµV/m]	Antenna Factor [dB]	Cable Loss [dB]	Result [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Detector	Polarity
1	30.021	36.15	10.30	3.76	19.11	40.00	20.89	QP	Horizontal
2	72.528	34.16	9.39	4.04	16.49	40.00	23.51	QP	Horizontal
3	159.172	32.67	8.65	4.54	14.70	43.50	28.80	QP	Horizontal
4	208.207	32.07	10.54	4.80	16.19	43.50	27.31	QP	Horizontal
5	327.731	35.08	13.94	5.33	22.94	46.00	23.06	QP	Horizontal
6	648.350	24.19	19.30	6.52	18.51	46.00	27.49	QP	Horizontal

Note:
1. Result Level = Reading + Cable loss + Antenna Factor + AMP
2. If Peak Result complies with QP limit, QP Result is deemed to comply with QP limit.
3. Test setup: RBW: 120 kHz, VBW: 300 kHz, Sweep time: auto.

TR-4-E-009 Radiated Emission Test Result

Test Date:	2024-12-23	**Tested By**:	Genliu
EUT:	wireless internet gateway	**Model Number**:	GW3
Test Mode:	LoRa-64channels	**Power Supply**:	DC 12V
Condition:	Temp:21.2°C;Humi:52.7%	**Test Site**:	DDT 3# Chamber
File Path:	d:\ts\2024 report data\Q24092616-2E\FCC BELOW 1G\20241223-224528_V		
Memo:	Sample Number:S24042326 (5dBi Antenna)		



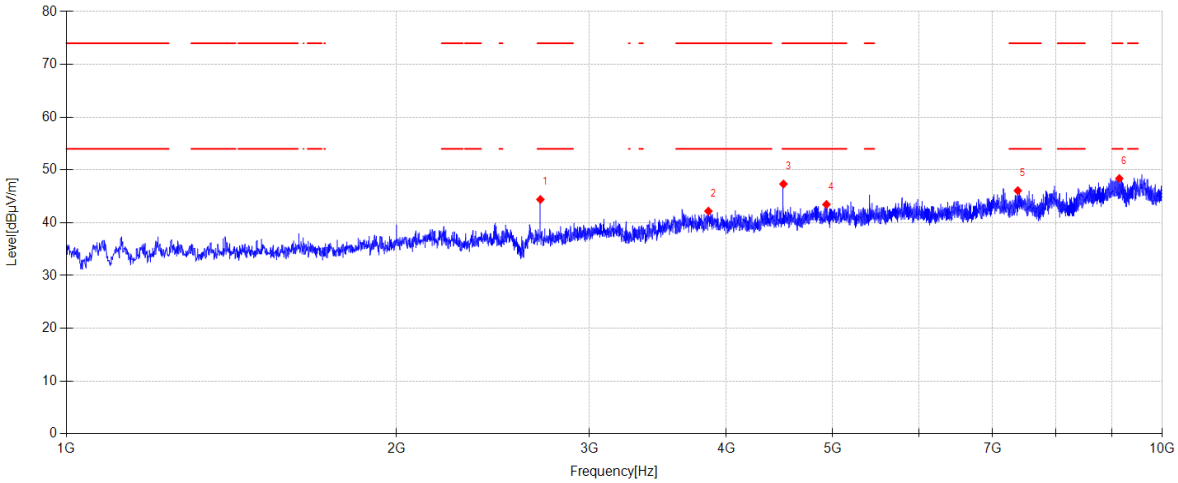
Data List									
NO.	**Freq. [MHz]**	**Reading [dBµV/m]**	**Antenna Factor [dB]**	**Cable Loss [dB]**	**Result [dBµV/m]**	**Limit [dBµV/m]**	**Margin [dB]**	**Detector**	**Polarity**
1	30.021	32.02	10.30	3.76	14.98	40.00	25.02	QP	Vertical
2	59.977	32.62	12.79	3.96	18.27	40.00	21.73	QP	Vertical
3	84.270	37.83	8.76	4.12	19.61	40.00	20.39	QP	Vertical
4	165.546	31.2	8.65	4.57	13.25	43.50	30.25	QP	Vertical
5	334.228	30.53	14.55	5.36	19.02	46.00	26.98	QP	Vertical
6	732.993	23.84	19.96	6.78	19.23	46.00	26.77	QP	Vertical

Note:
1. Result Level = Reading + Cable loss + Antenna Factor + AMP
2. If Peak Result complies with QP limit, QP Result is deemed to comply with QP limit.
3. Test setup: RBW: 120 kHz, VBW: 300 kHz, Sweep time: auto.

TR-4-E-009 Radiated Emission Test Result

Test Date:	2024-12-11	**Tested By**:	Genliu
EUT:	wireless internet gateway	**Model Number**:	GW3
Test Mode:	LoRa-64channels 902.3MHz	**Power Supply**:	DC 12V
Condition:	Temp:21.2°C;Humi:52.7%	**Test Site**:	DDT 3# Chamber
File Path:	d:\ts\2024 report data\Q24092616-2E\1211 FCC ABOVE 1G\13		
Memo:	Sample Number:S24042326 Power Setting:20 (PCB Antenna)		

Test Graph



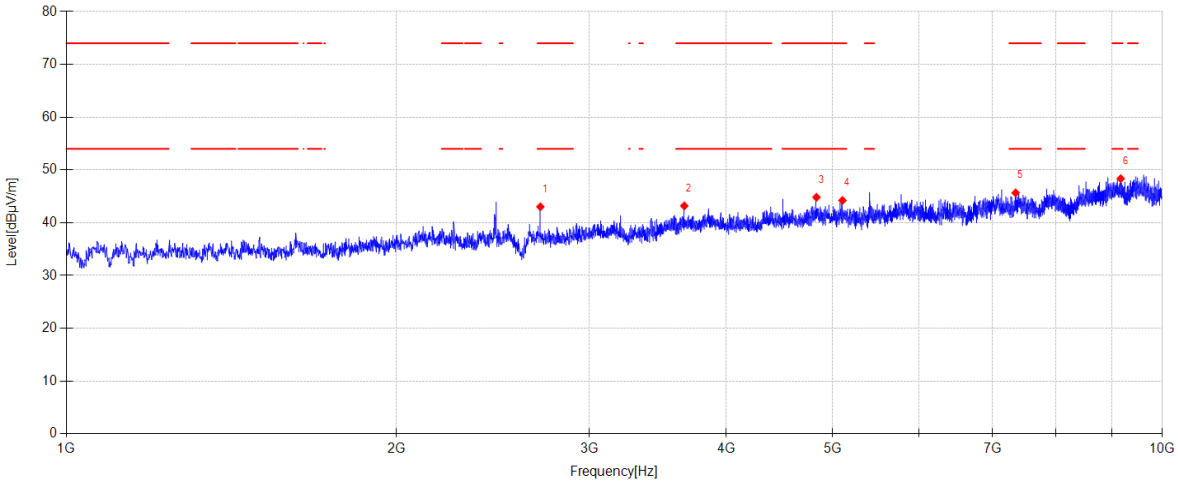
Data List										
NO.	**Freq. [MHz]**	**Reading [dBµV/m]**	**Antenna Factor [dB]**	**Cable loss [dB]**	**AMP [dB]**	**Level [dBµV/m]**	**Limit [dBµV/m]**	**Margin [dB]**	**Detector**	**Polarity**
1	2707.300	50.92	27.51	5.04	-39.07	44.40	74.00	29.60	PK	Horizontal
2	3853.000	45.84	30.92	5.07	-39.64	42.19	74.00	31.81	PK	Horizontal
3	4511.800	49.80	31.82	5.36	-39.64	47.34	74.00	26.66	PK	Horizontal
4	4937.500	44.38	33.08	5.61	-39.61	43.46	74.00	30.54	PK	Horizontal
5	7381.900	43.36	36.74	6.64	-40.66	46.08	74.00	27.92	PK	Horizontal
6	9136.000	41.45	38.50	7.34	-38.91	48.38	74.00	25.62	PK	Horizontal

Note:
1. Level = Reading + Cable loss + Antenna Factor + AMP
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.

TR-4-E-009 Radiated Emission Test Result

Test Date:	2024-12-11	**Tested By**:	Genliu
EUT:	wireless internet gateway	**Model Number**:	GW3
Test Mode:	LoRa-64channels 902.3MHz	**Power Supply**:	DC 12V
Condition:	Temp:21.2°C;Humi:52.7%	**Test Site**:	DDT 3# Chamber
File Path:	d:\ts\2024 report data\Q24092616-2E\1211 FCC ABOVE 1G\14		
Memo:	Sample Number:S24042326 Power Setting:20 (PCB Antenna)		

Test Graph



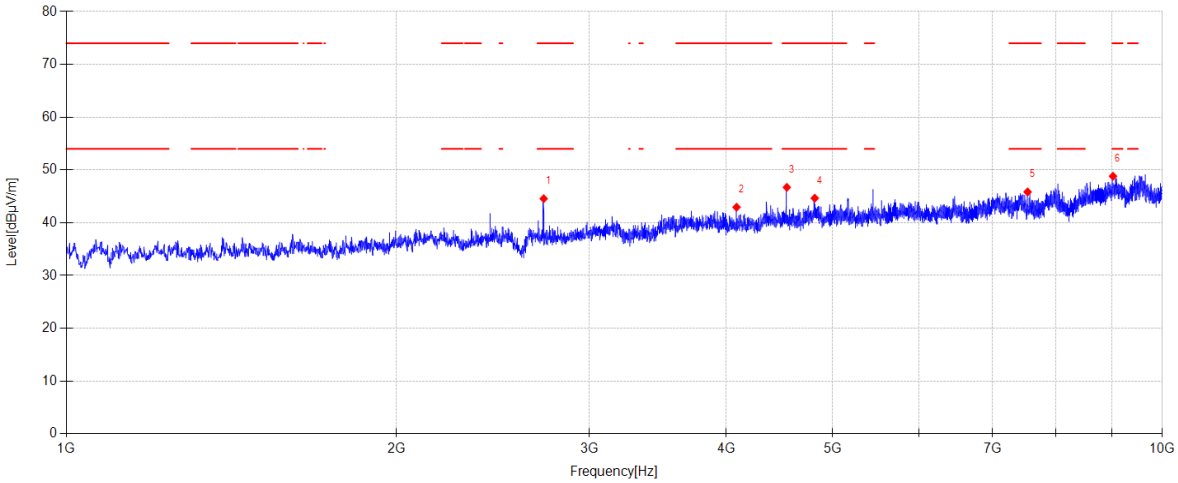
Data List										
NO.	**Freq. [MHz]**	**Reading [dBµV/m]**	**Antenna Factor [dB]**	**Cable loss [dB]**	**AMP [dB]**	**Level [dBµV/m]**	**Limit [dBµV/m]**	**Margin [dB]**	**Detector**	**Polarity**
1	2707.300	49.54	27.51	5.04	-39.07	43.02	74.00	30.98	PK	Vertical
2	3663.100	47.43	30.25	5.11	-39.60	43.19	74.00	30.81	PK	Vertical
3	4834.900	45.47	33.41	5.55	-39.61	44.82	74.00	29.18	PK	Vertical
4	5106.700	44.71	33.40	5.71	-39.60	44.22	74.00	29.78	PK	Vertical
5	7347.700	42.93	36.80	6.62	-40.69	45.66	74.00	28.34	PK	Vertical
6	9163.000	41.40	38.53	7.35	-38.93	48.35	74.00	25.65	PK	Vertical

Note:
1. Level = Reading + Cable loss + Antenna Factor + AMP
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.

TR-4-E-009 Radiated Emission Test Result

Test Date:	2024-12-11	**Tested By**:	Genliu
EUT:	wireless internet gateway	**Model Number**:	GW3
Test Mode:	LoRa-64channels 908.7MHz	**Power Supply**:	DC 12V
Condition:	Temp:21.2°C;Humi:52.7%	**Test Site**:	DDT 3# Chamber
File Path:	d:\ts\2024 report data\Q24092616-2E\1211 FCC ABOVE 1G\15		
Memo:	Sample Number:S24042326 Power Setting:20 (PCB Antenna)		

Test Graph



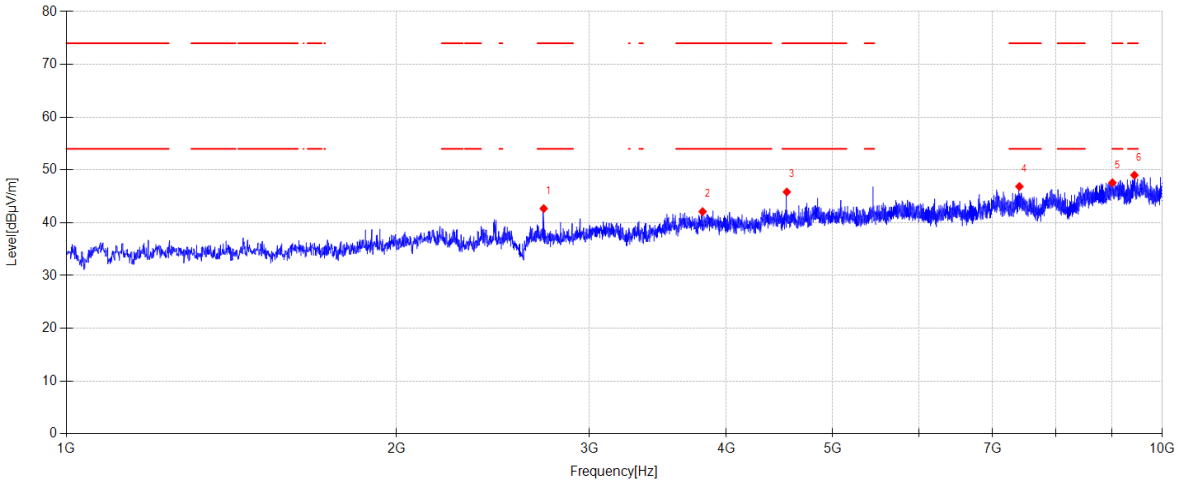
Data List										
NO.	**Freq. [MHz]**	**Reading [dBµV/m]**	**Antenna Factor [dB]**	**Cable loss [dB]**	**AMP [dB]**	**Level [dBµV/m]**	**Limit [dBµV/m]**	**Margin [dB]**	**Detector**	**Polarity**
1	2726.200	51.06	27.55	5.05	-39.10	44.56	74.00	29.44	PK	Horizontal
2	4087.900	46.43	31.08	5.10	-39.67	42.94	74.00	31.06	PK	Horizontal
3	4543.300	49.08	31.89	5.38	-39.64	46.71	74.00	27.29	PK	Horizontal
4	4817.800	45.76	32.96	5.54	-39.61	44.65	74.00	29.35	PK	Horizontal
5	7534.900	43.21	36.43	6.72	-40.52	45.84	74.00	28.16	PK	Horizontal
6	9014.500	41.99	38.33	7.30	-38.81	48.81	74.00	25.19	PK	Horizontal

Note:
1. Level = Reading + Cable loss + Antenna Factor + AMP
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.

TR-4-E-009 Radiated Emission Test Result

Test Date:	2024-12-11	**Tested By**:	Genliu
EUT:	wireless internet gateway	**Model Number**:	GW3
Test Mode:	LoRa-64channels 908.7MHz	**Power Supply**:	DC 12V
Condition:	Temp:21.2°C;Humi:52.7%	**Test Site**:	DDT 3# Chamber
File Path:	d:\ts\2024 report data\Q24092616-2E\1211 FCC ABOVE 1G\16		
Memo:	Sample Number:S24042326 Power Setting:20 (PCB Antenna)		

Test Graph



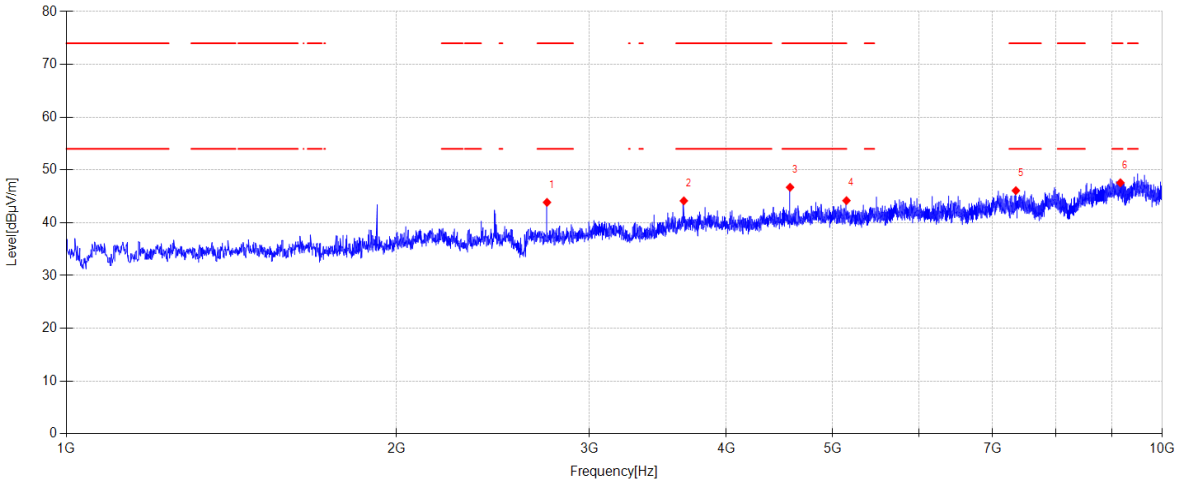
Data List										
NO.	**Freq. [MHz]**	**Reading [dBµV/m]**	**Antenna Factor [dB]**	**Cable loss [dB]**	**AMP [dB]**	**Level [dBµV/m]**	**Limit [dBµV/m]**	**Margin [dB]**	**Detector**	**Polarity**
1	2726.200	49.18	27.55	5.05	-39.10	42.68	74.00	31.32	PK	Vertical
2	3806.200	45.93	30.72	5.08	-39.63	42.10	74.00	31.90	PK	Vertical
3	4543.300	48.21	31.89	5.38	-39.64	45.84	74.00	28.16	PK	Vertical
4	7406.200	44.14	36.69	6.66	-40.63	46.86	74.00	27.14	PK	Vertical
5	9004.600	40.77	38.31	7.30	-38.80	47.58	74.00	26.42	PK	Vertical
6	9430.300	42.01	38.70	7.44	-39.14	49.01	74.00	24.99	PK	Vertical

Note:
1. Level = Reading + Cable loss + Antenna Factor + AMP
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.

TR-4-E-009 Radiated Emission Test Result

Test Date:	2024-12-11	**Tested By**:	Genliu
EUT:	wireless internet gateway	**Model Number**:	GW3
Test Mode:	LoRa-64channels 914.9MHz	**Power Supply**:	DC 12V
Condition:	Temp:21.2°C;Humi:52.7%	**Test Site**:	DDT 3# Chamber
File Path:	d:\ts\2024 report data\Q24092616-2E\1211 FCC ABOVE 1G\17		
Memo:	Sample Number:S24042326 Power Setting:20 (PCB Antenna)		

Test Graph



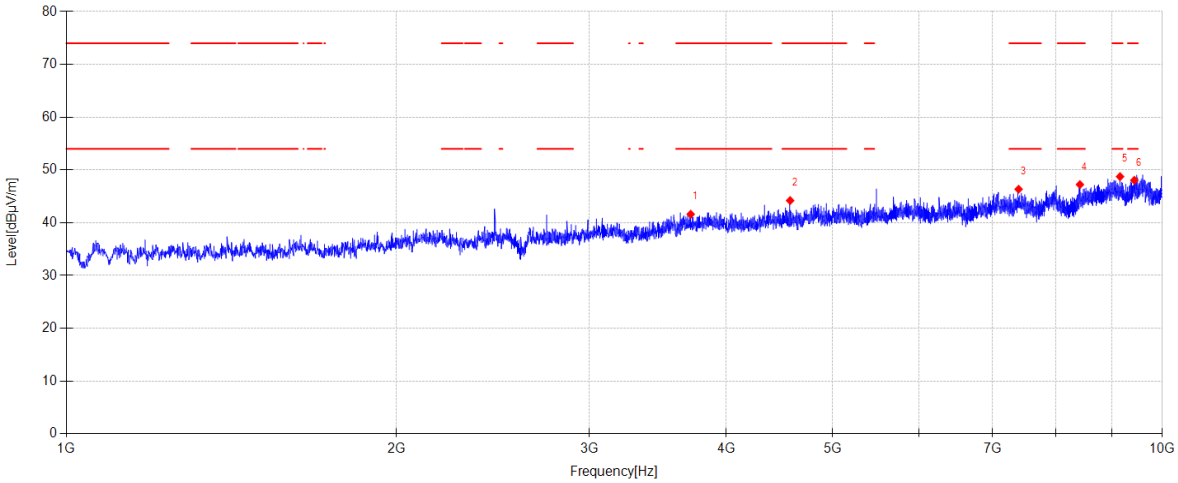
Data List										
NO.	**Freq. [MHz]**	**Reading [dBµV/m]**	**Antenna Factor [dB]**	**Cable loss [dB]**	**AMP [dB]**	**Level [dBµV/m]**	**Limit [dBµV/m]**	**Margin [dB]**	**Detector**	**Polarity**
1	2745.100	50.33	27.59	5.06	-39.12	43.86	74.00	30.14	PK	Horizontal
2	3659.500	48.40	30.24	5.11	-39.60	44.15	74.00	29.85	PK	Horizontal
3	4574.800	49.05	31.90	5.39	-39.63	46.71	74.00	27.29	PK	Horizontal
4	5149.900	44.66	33.40	5.73	-39.60	44.19	74.00	29.81	PK	Horizontal
5	7351.300	43.33	36.80	6.63	-40.68	46.08	74.00	27.92	PK	Horizontal
6	9156.700	40.64	38.51	7.35	-38.93	47.57	74.00	26.43	PK	Horizontal

Note:
1. Level = Reading + Cable loss + Antenna Factor + AMP
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.

TR-4-E-009 Radiated Emission Test Result

Test Date:	2024-12-11	**Tested By**:	Genliu
EUT:	wireless internet gateway	**Model Number**:	GW3
Test Mode:	LoRa-64channels 914.9MHz	**Power Supply**:	DC 12V
Condition:	Temp:21.2°C;Humi:52.7%	**Test Site**:	DDT 3# Chamber
File Path:	d:\ts\2024 report data\Q24092616-2E\1211 FCC ABOVE 1G\18		
Memo:	Sample Number:S24042326 Power Setting:20 (PCB Antenna)		

Test Graph



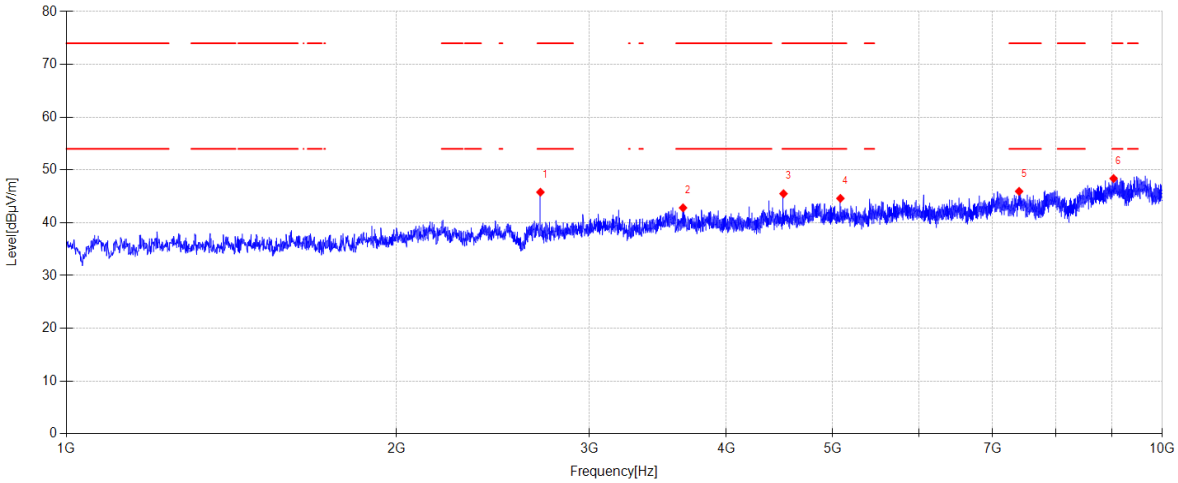
Data List										
NO.	**Freq. [MHz]**	**Reading [dBµV/m]**	**Antenna Factor [dB]**	**Cable loss [dB]**	**AMP [dB]**	**Level [dBµV/m]**	**Limit [dBµV/m]**	**Margin [dB]**	**Detector**	**Polarity**
1	3712.600	45.69	30.43	5.10	-39.61	41.61	74.00	32.39	PK	Vertical
2	4574.800	46.54	31.90	5.39	-39.63	44.20	74.00	29.80	PK	Vertical
3	7393.600	43.64	36.71	6.65	-40.65	46.35	74.00	27.65	PK	Vertical
4	8410.600	42.19	37.50	7.11	-39.57	47.23	74.00	26.77	PK	Vertical
5	9150.400	41.81	38.50	7.35	-38.92	48.74	74.00	25.26	PK	Vertical
6	9428.500	41.04	38.70	7.44	-39.14	48.04	74.00	25.96	PK	Vertical

Note:
1. Level = Reading + Cable loss + Antenna Factor + AMP
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.

TR-4-E-009 Radiated Emission Test Result

Test Date:	2024-12-16	**Tested By**:	Genliu
EUT:	wireless internet gateway	**Model Number**:	GW3
Test Mode:	LoRa-64channels 902.3MHz	**Power Supply**:	DC 12V
Condition:	Temp:21.2°C;Humi:52.7%	**Test Site**:	DDT 3# Chamber
File Path:	d:\ts\2024 report data\Q24092616-2E\1211 FCC ABOVE 1G\73		
Memo:	Sample Number:S24042326 Power Setting:20 (3dBi Antenna)		

Test Graph



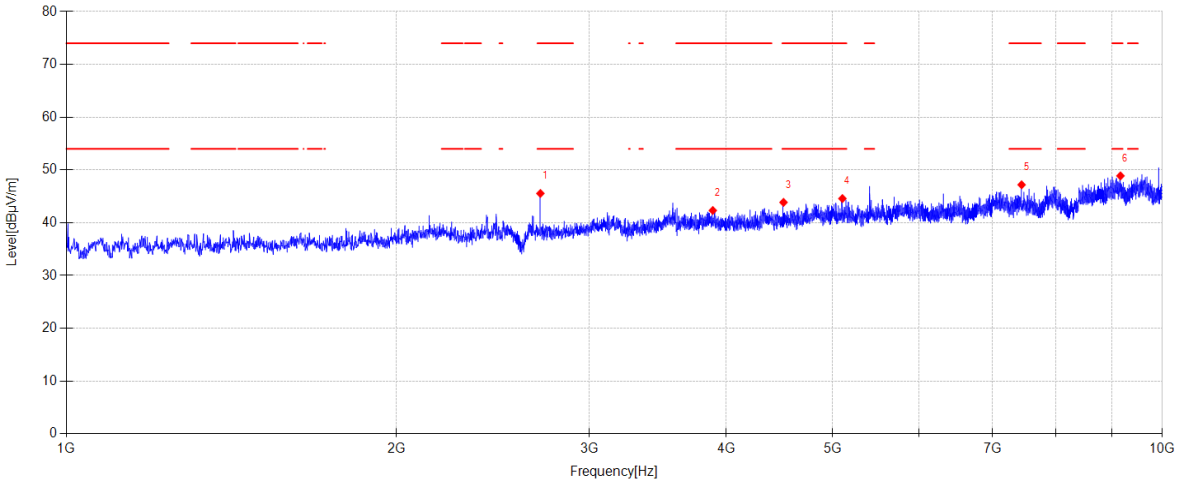
Data List										
NO.	**Freq. [MHz]**	**Reading [dBµV/m]**	**Antenna Factor [dB]**	**Cable loss [dB]**	**AMP [dB]**	**Level [dBµV/m]**	**Limit [dBµV/m]**	**Margin [dB]**	**Detector**	**Polarity**
1	2707.300	52.31	27.51	5.04	-39.07	45.79	74.00	28.21	PK	Horizontal
2	3653.200	47.10	30.21	5.11	-39.60	42.82	74.00	31.18	PK	Horizontal
3	4511.800	47.96	31.82	5.36	-39.64	45.50	74.00	28.50	PK	Horizontal
4	5085.100	45.14	33.37	5.70	-39.60	44.61	74.00	29.39	PK	Horizontal
5	7401.700	43.24	36.70	6.65	-40.64	45.95	74.00	28.05	PK	Horizontal
6	9026.200	41.54	38.35	7.31	-38.82	48.38	74.00	25.62	PK	Horizontal

Note:
1. Level = Reading + Cable loss + Antenna Factor + AMP
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.

TR-4-E-009 Radiated Emission Test Result

Test Date:	2024-12-16	**Tested By**:	Genliu
EUT:	wireless internet gateway	**Model Number**:	GW3
Test Mode:	LoRa-64channels 902.3MHz	**Power Supply**:	DC 12V
Condition:	Temp:21.2°C;Humi:52.7%	**Test Site**:	DDT 3# Chamber
File Path:	d:\ts\2024 report data\Q24092616-2E\1211 FCC ABOVE 1G\74		
Memo:	Sample Number:S24042326 Power Setting:20 (3dBi Antenna)		

Test Graph



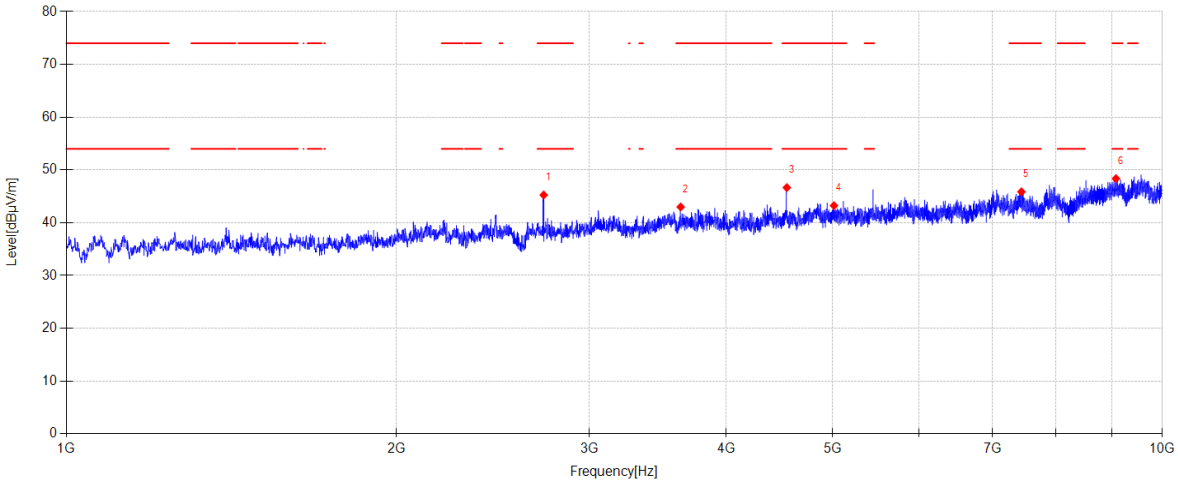
Data List										
NO.	**Freq. [MHz]**	**Reading [dBµV/m]**	**Antenna Factor [dB]**	**Cable loss [dB]**	**AMP [dB]**	**Level [dBµV/m]**	**Limit [dBµV/m]**	**Margin [dB]**	**Detector**	**Polarity**
1	2707.300	52.07	27.51	5.04	-39.07	45.55	74.00	28.45	PK	Vertical
2	3889.000	45.77	31.13	5.07	-39.65	42.32	74.00	31.68	PK	Vertical
3	4511.800	46.32	31.82	5.36	-39.64	43.86	74.00	30.14	PK	Vertical
4	5106.700	45.07	33.40	5.71	-39.60	44.58	74.00	29.42	PK	Vertical
5	7440.400	44.50	36.62	6.67	-40.60	47.19	74.00	26.81	PK	Vertical
6	9157.600	41.94	38.52	7.35	-38.93	48.88	74.00	25.12	PK	Vertical

Note:
1. Level = Reading + Cable loss + Antenna Factor + AMP
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.

TR-4-E-009 Radiated Emission Test Result

Test Date:	2024-12-16	**Tested By**:	Genliu
EUT:	wireless internet gateway	**Model Number**:	GW3
Test Mode:	LoRa-64channels 908.7MHz	**Power Supply**:	DC 12V
Condition:	Temp:21.2°C;Humi:52.7%	**Test Site**:	DDT 3# Chamber
File Path:	d:\ts\2024 report data\Q24092616-2E\1211 FCC ABOVE 1G\75		
Memo:	Sample Number:S24042326 Power Setting:20 (3dBi Antenna)		

Test Graph



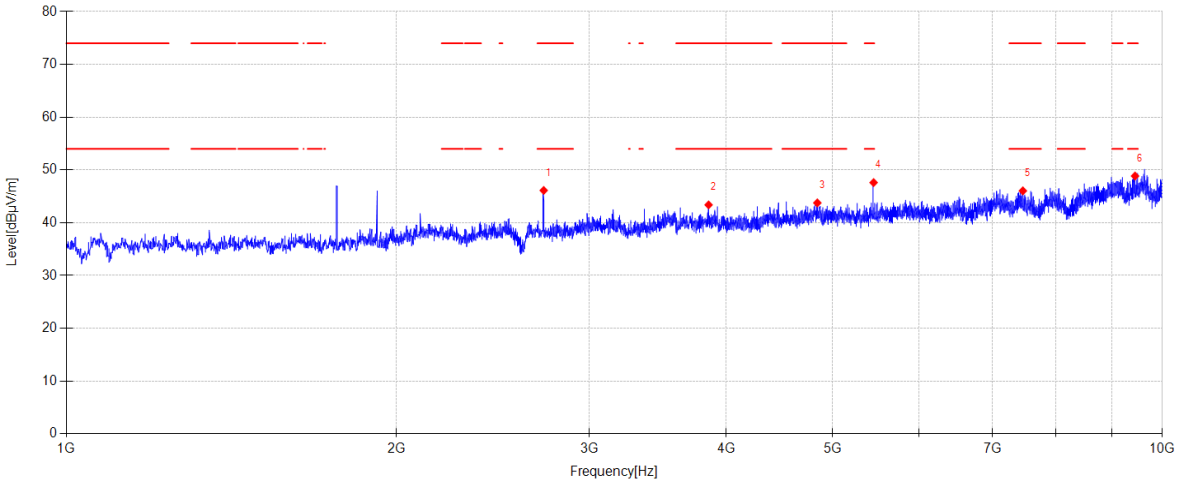
Data List										
NO.	Freq. [MHz]	Reading [dBµV/m]	Antenna Factor [dB]	Cable loss [dB]	AMP [dB]	Level [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Detector	Polarity
1	2726.200	51.76	27.55	5.05	-39.10	45.26	74.00	28.74	PK	Horizontal
2	3635.200	47.33	30.14	5.11	-39.59	42.99	74.00	31.01	PK	Horizontal
3	4543.300	49.03	31.89	5.38	-39.64	46.66	74.00	27.34	PK	Horizontal
4	5016.700	43.95	33.23	5.66	-39.60	43.24	74.00	30.76	PK	Horizontal
5	7437.700	43.18	36.62	6.67	-40.61	45.86	74.00	28.14	PK	Horizontal
6	9072.100	41.46	38.44	7.32	-38.86	48.36	74.00	25.64	PK	Horizontal

Note:
1. Level = Reading + Cable loss + Antenna Factor + AMP
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.

TR-4-E-009 Radiated Emission Test Result

Test Date:	2024-12-16	**Tested By**:	Genliu
EUT:	wireless internet gateway	**Model Number**:	GW3
Test Mode:	LoRa-64channels 908.7MHz	**Power Supply**:	DC 12V
Condition:	Temp:21.2°C;Humi:52.7%	**Test Site**:	DDT 3# Chamber
File Path:	d:\ts\2024 report data\Q24092616-2E\1211 FCC ABOVE 1G\76		
Memo:	Sample Number:S24042326 Power Setting:20 (3dBi Antenna)		

Test Graph



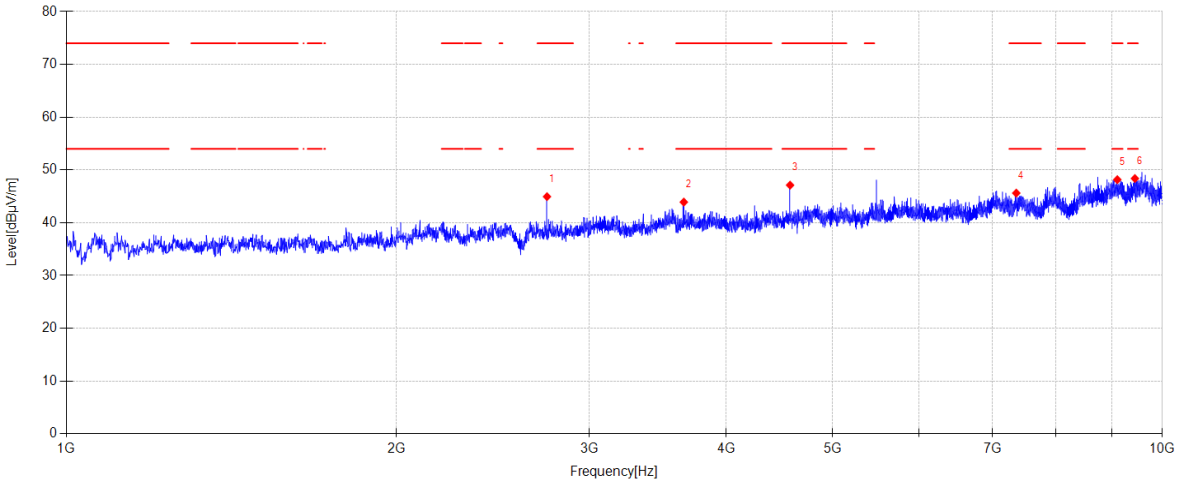
Data List										
NO.	**Freq. [MHz]**	**Reading [dBµV/m]**	**Antenna Factor [dB]**	**Cable loss [dB]**	**AMP [dB]**	**Level [dBµV/m]**	**Limit [dBµV/m]**	**Margin [dB]**	**Detector**	**Polarity**
1	2726.200	52.62	27.55	5.05	-39.10	46.12	74.00	27.88	PK	Vertical
2	3854.800	47.03	30.93	5.07	-39.65	43.38	74.00	30.62	PK	Vertical
3	4843.900	44.17	33.64	5.56	-39.61	43.76	74.00	30.24	PK	Vertical
4	5452.300	48.32	33.00	5.89	-39.60	47.61	74.00	26.39	PK	Vertical
5	7460.200	43.37	36.58	6.68	-40.59	46.04	74.00	27.96	PK	Vertical
6	9442.900	41.85	38.70	7.45	-39.15	48.85	74.00	25.15	PK	Vertical

Note:
1. Level = Reading + Cable loss + Antenna Factor + AMP
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.

TR-4-E-009 Radiated Emission Test Result

Test Date:	2024-12-16	**Tested By**:	Genliu
EUT:	wireless internet gateway	**Model Number**:	GW3
Test Mode:	LoRa-64channels 914.9MHz	**Power Supply**:	DC 12V
Condition:	Temp:21.2°C;Humi:52.7%	**Test Site**:	DDT 3# Chamber
File Path:	d:\ts\2024 report data\Q24092616-2E\1211 FCC ABOVE 1G\77		
Memo:	Sample Number:S24042326 Power Setting:20 (3dBi Antenna)		

Test Graph



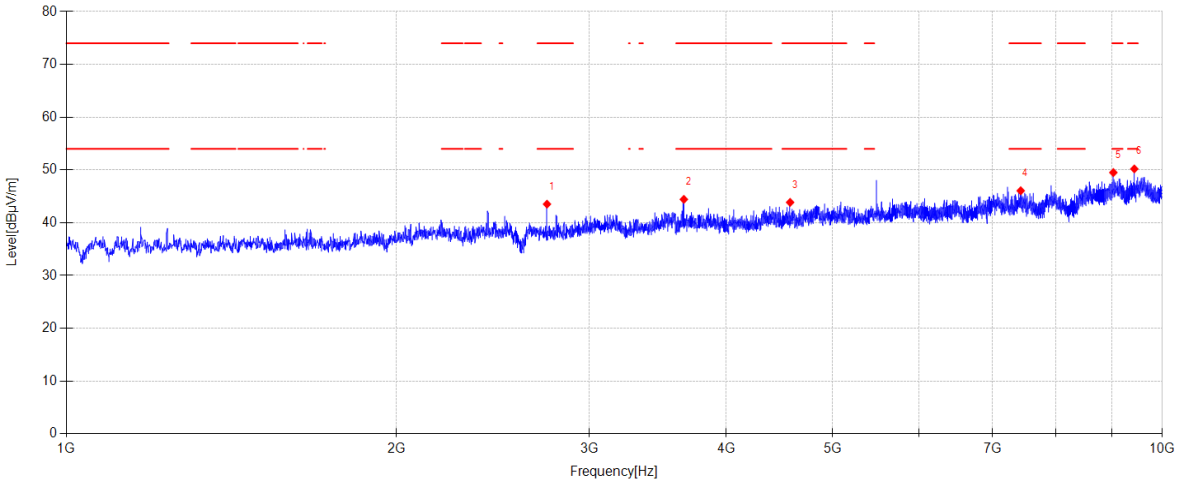
Data List										
NO.	**Freq. [MHz]**	**Reading [dBµV/m]**	**Antenna Factor [dB]**	**Cable loss [dB]**	**AMP [dB]**	**Level [dBµV/m]**	**Limit [dBµV/m]**	**Margin [dB]**	**Detector**	**Polarity**
1	2745.100	51.41	27.59	5.06	-39.12	44.94	74.00	29.06	PK	Horizontal
2	3659.500	48.16	30.24	5.11	-39.60	43.91	74.00	30.09	PK	Horizontal
3	4574.800	49.46	31.90	5.39	-39.63	47.12	74.00	26.88	PK	Horizontal
4	7357.600	42.88	36.78	6.63	-40.68	45.61	74.00	28.39	PK	Horizontal
5	9097.300	41.22	38.49	7.33	-38.88	48.16	74.00	25.84	PK	Horizontal
6	9440.200	41.38	38.70	7.45	-39.15	48.38	74.00	25.62	PK	Horizontal

Note:
1. Level = Reading + Cable loss + Antenna Factor + AMP
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.

TR-4-E-009 Radiated Emission Test Result

Test Date:	2024-12-16	**Tested By**:	Genliu
EUT:	wireless internet gateway	**Model Number**:	GW3
Test Mode:	LoRa-64channels 914.9MHz	**Power Supply**:	DC 12V
Condition:	Temp:21.2°C;Humi:52.7%	**Test Site**:	DDT 3# Chamber
File Path:	d:\ts\2024 report data\Q24092616-2E\1211 FCC ABOVE 1G\78		
Memo:	Sample Number:S24042326 Power Setting:20 (3dBi Antenna)		

Test Graph



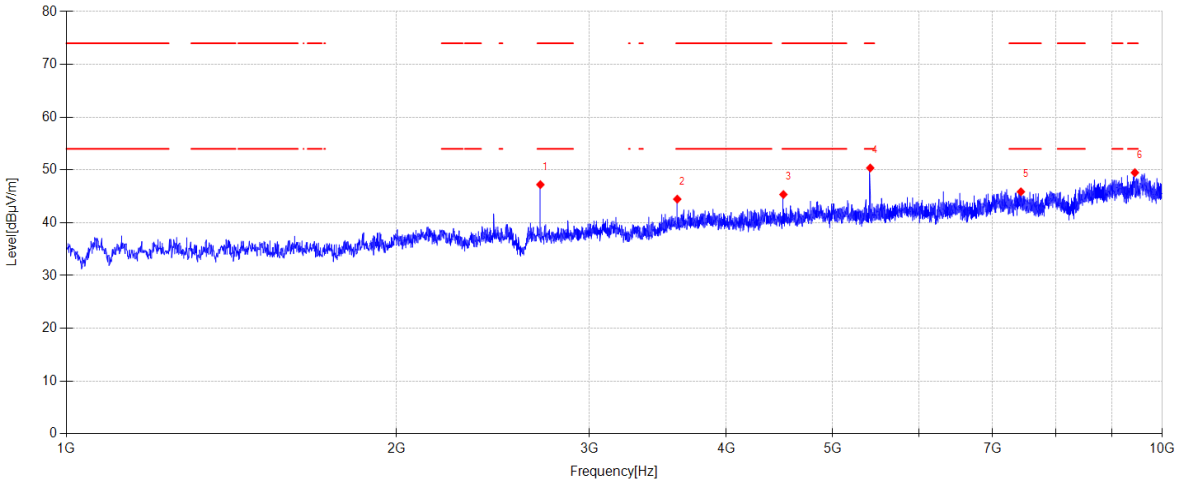
Data List										
NO.	**Freq. [MHz]**	**Reading [dBµV/m]**	**Antenna Factor [dB]**	**Cable loss [dB]**	**AMP [dB]**	**Level [dBµV/m]**	**Limit [dBµV/m]**	**Margin [dB]**	**Detector**	**Polarity**
1	2745.100	49.99	27.59	5.06	-39.12	43.52	74.00	30.48	PK	Vertical
2	3659.500	48.68	30.24	5.11	-39.60	44.43	74.00	29.57	PK	Vertical
3	4574.800	46.20	31.90	5.39	-39.63	43.86	74.00	30.14	PK	Vertical
4	7426.000	43.36	36.65	6.67	-40.62	46.06	74.00	27.94	PK	Vertical
5	9021.700	42.68	38.34	7.31	-38.82	49.51	74.00	24.49	PK	Vertical
6	9428.500	43.20	38.70	7.44	-39.14	50.20	74.00	23.80	PK	Vertical

Note:
1. Level = Reading + Cable loss + Antenna Factor + AMP
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.

TR-4-E-009 Radiated Emission Test Result

Test Date:	2024-12-12	**Tested By**:	Genliu
EUT:	wireless internet gateway	**Model Number**:	GW3
Test Mode:	LoRa-64channels 902.3MHz	**Power Supply**:	DC 12V
Condition:	Temp:21.2°C;Humi:52.7%	**Test Site**:	DDT 3# Chamber
File Path:	d:\ts\2024 report data\Q24092616-2E\1211 FCC ABOVE 1G\43		
Memo:	Sample Number:S24042326 Power Setting:20 (5dBi Antenna)		

Test Graph



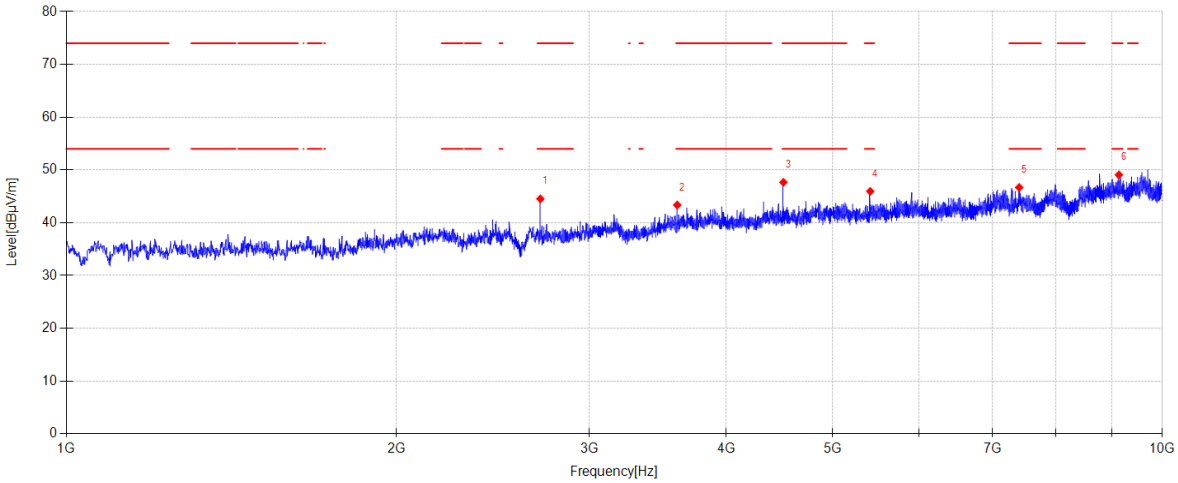
Data List										
NO.	**Freq. [MHz]**	**Reading [dBµV/m]**	**Antenna Factor [dB]**	**Cable loss [dB]**	**AMP [dB]**	**Level [dBµV/m]**	**Limit [dBµV/m]**	**Margin [dB]**	**Detector**	**Polarity**
1	2707.300	53.74	27.51	5.04	-39.07	47.22	74.00	26.78	PK	Horizontal
2	3609.100	48.90	30.04	5.12	-39.59	44.47	74.00	29.53	PK	Horizontal
3	4510.900	47.81	31.82	5.36	-39.64	45.35	74.00	28.65	PK	Horizontal
4	5413.600	51.03	33.07	5.87	-39.60	50.37	74.00	23.63	PK	Horizontal
5	7429.600	43.17	36.64	6.67	-40.61	45.87	74.00	28.13	PK	Horizontal
6	9439.300	42.50	38.70	7.44	-39.15	49.49	74.00	24.51	PK	Horizontal

Note:
1. Level = Reading + Cable loss + Antenna Factor + AMP
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.

TR-4-E-009 Radiated Emission Test Result

Test Date:	2024-12-12	**Tested By**:	Genliu
EUT:	wireless internet gateway	**Model Number**:	GW3
Test Mode:	LoRa-64channels 902.3MHz	**Power Supply**:	DC 12V
Condition:	Temp:21.2°C;Humi:52.7%	**Test Site**:	DDT 3# Chamber
File Path:	d:\ts\2024 report data\Q24092616-2E\1211 FCC ABOVE 1G\44		
Memo:	Sample Number:S24042326 Power Setting:20 (5dBi Antenna)		

Test Graph



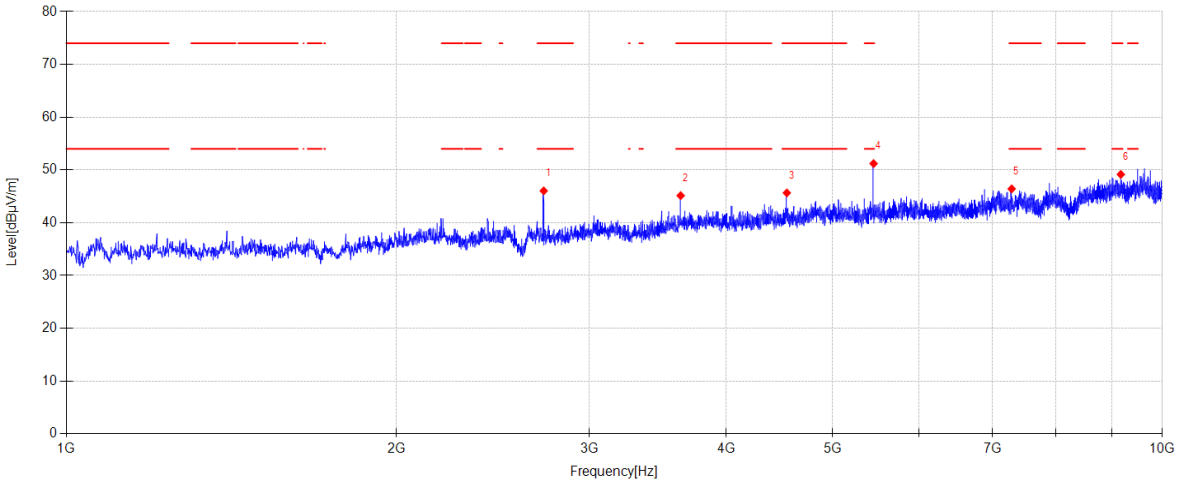
Data List										
NO.	**Freq. [MHz]**	**Reading [dBµV/m]**	**Antenna Factor [dB]**	**Cable loss [dB]**	**AMP [dB]**	**Level [dBµV/m]**	**Limit [dBµV/m]**	**Margin [dB]**	**Detector**	**Polarity**
1	2707.300	51.04	27.51	5.04	-39.07	44.52	74.00	29.48	PK	Vertical
2	3609.100	47.79	30.04	5.12	-39.59	43.36	74.00	30.64	PK	Vertical
3	4510.900	50.12	31.82	5.36	-39.64	47.66	74.00	26.34	PK	Vertical
4	5413.600	46.61	33.07	5.87	-39.60	45.95	74.00	28.05	PK	Vertical
5	7402.600	43.98	36.69	6.65	-40.64	46.68	74.00	27.32	PK	Vertical
6	9127.900	42.13	38.50	7.34	-38.90	49.07	74.00	24.93	PK	Vertical

Note:
1. Level = Reading + Cable loss + Antenna Factor + AMP
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.

TR-4-E-009 Radiated Emission Test Result

Test Date:	2024-12-12	**Tested By**:	Genliu
EUT:	wireless internet gateway	**Model Number**:	GW3
Test Mode:	LoRa-64channels 908.7MHz	**Power Supply**:	DC 12V
Condition:	Temp:21.2°C;Humi:52.7%	**Test Site**:	DDT 3# Chamber
File Path:	d:\ts\2024 report data\Q24092616-2E\1211 FCC ABOVE 1G\45		
Memo:	Sample Number:S24042326 Power Setting:20 (5dBi Antenna)		

Test Graph



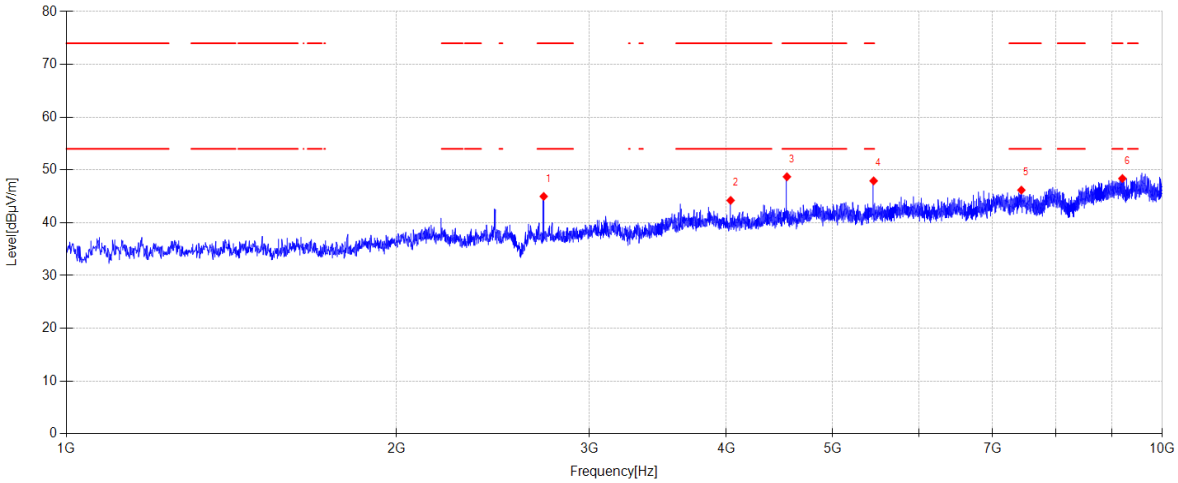
Data List										
NO.	**Freq. [MHz]**	**Reading [dBµV/m]**	**Antenna Factor [dB]**	**Cable loss [dB]**	**AMP [dB]**	**Level [dBµV/m]**	**Limit [dBµV/m]**	**Margin [dB]**	**Detector**	**Polarity**
1	2726.200	52.54	27.55	5.05	-39.10	46.04	74.00	27.96	PK	Horizontal
2	3635.200	49.48	30.14	5.11	-39.59	45.14	74.00	28.86	PK	Horizontal
3	4543.300	48.02	31.89	5.38	-39.64	45.65	74.00	28.35	PK	Horizontal
4	5452.300	51.92	33.00	5.89	-39.60	51.21	74.00	22.79	PK	Horizontal
5	7286.500	43.70	36.87	6.59	-40.74	46.42	74.00	27.58	PK	Horizontal
6	9164.800	42.21	38.53	7.35	-38.93	49.16	74.00	24.84	PK	Horizontal

Note:
1. Level = Reading + Cable loss + Antenna Factor + AMP
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.

TR-4-E-009 Radiated Emission Test Result

Test Date:	2024-12-12	**Tested By**:	Genliu
EUT:	wireless internet gateway	**Model Number**:	GW3
Test Mode:	LoRa-64channels 908.7MHz	**Power Supply**:	DC 12V
Condition:	Temp:21.2°C;Humi:52.7%	**Test Site**:	DDT 3# Chamber
File Path:	d:\ts\2024 report data\Q24092616-2E\1211 FCC ABOVE 1G\46		
Memo:	Sample Number:S24042326 Power Setting:20 (5dBi Antenna)		

Test Graph



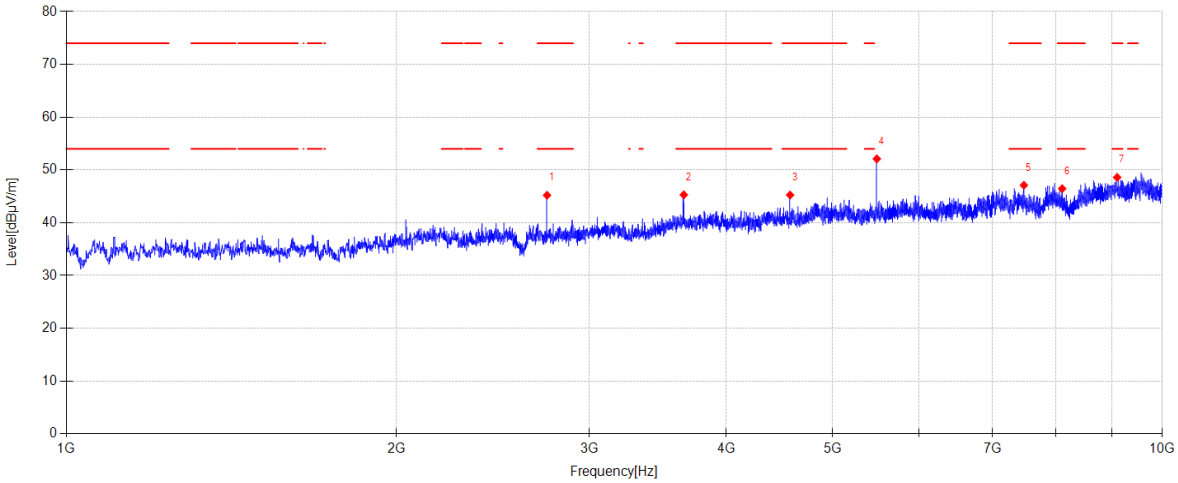
Data List										
NO.	**Freq. [MHz]**	**Reading [dBµV/m]**	**Antenna Factor [dB]**	**Cable loss [dB]**	**AMP [dB]**	**Level [dBµV/m]**	**Limit [dBµV/m]**	**Margin [dB]**	**Detector**	**Polarity**
1	2726.200	51.48	27.55	5.05	-39.10	44.98	74.00	29.02	PK	Vertical
2	4037.500	47.86	30.98	5.07	-39.68	44.23	74.00	29.77	PK	Vertical
3	4544.200	51.08	31.89	5.38	-39.64	48.71	74.00	25.29	PK	Vertical
4	5452.300	48.64	33.00	5.89	-39.60	47.93	74.00	26.07	PK	Vertical
5	7436.800	43.49	36.63	6.67	-40.61	46.18	74.00	27.82	PK	Vertical
6	9195.400	41.39	38.59	7.36	-38.96	48.38	74.00	25.62	PK	Vertical

Note:
1. Level = Reading + Cable loss + Antenna Factor + AMP
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.

TR-4-E-009 Radiated Emission Test Result

Test Date:	2024-12-12	**Tested By**:	Genliu
EUT:	wireless internet gateway	**Model Number**:	GW3
Test Mode:	LoRa-64channels 914.9MHz	**Power Supply**:	DC 12V
Condition:	Temp:21.2°C;Humi:52.7%	**Test Site**:	DDT 3# Chamber
File Path:	d:\ts\2024 report data\Q24092616-2E\1211 FCC ABOVE 1G\47		
Memo:	Sample Number:S24042326 Power Setting:20 (5dBi Antenna)		

Test Graph



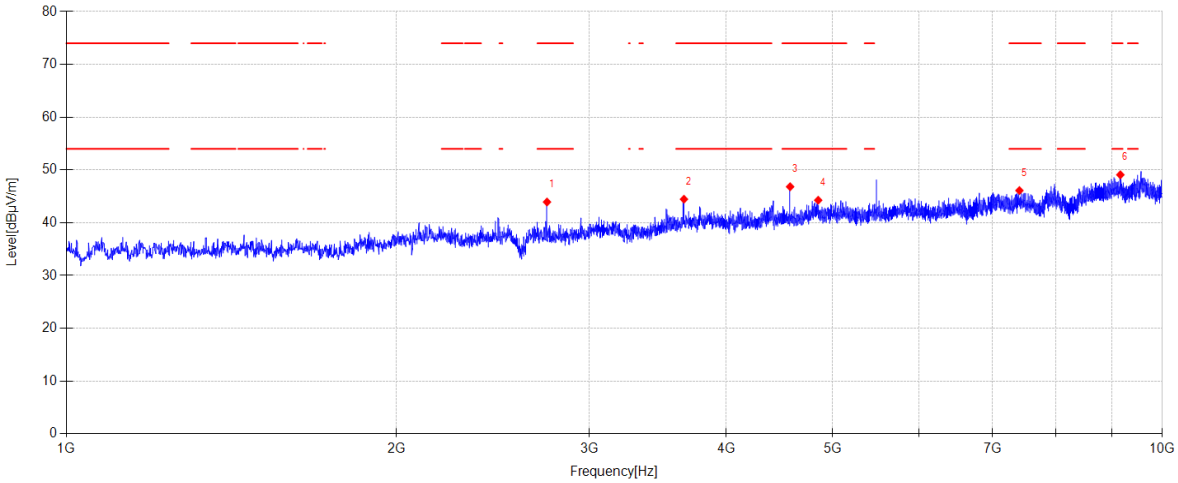
Data List										
NO.	**Freq. [MHz]**	**Reading [dBµV/m]**	**Antenna Factor [dB]**	**Cable loss [dB]**	**AMP [dB]**	**Level [dBµV/m]**	**Limit [dBµV/m]**	**Margin [dB]**	**Detector**	**Polarity**
1	2745.100	51.68	27.59	5.06	-39.12	45.21	74.00	28.79	PK	Horizontal
2	3659.500	49.54	30.24	5.11	-39.60	45.29	74.00	28.71	PK	Horizontal
3	4574.800	47.59	31.90	5.39	-39.63	45.25	74.00	28.75	PK	Horizontal
4	5489.200	52.80	33.00	5.91	-39.60	52.11	-	-	PK	Horizontal
5	7476.400	44.44	36.55	6.69	-40.57	47.11	74.00	26.89	PK	Horizontal
6	8102.800	42.23	37.20	7.00	-39.97	46.46	74.00	27.54	PK	Horizontal
7	9094.600	41.66	38.49	7.33	-38.88	48.60	74.00	25.40	PK	Horizontal

Note:
1. Level = Reading + Cable loss + Antenna Factor + AMP
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.

TR-4-E-009 Radiated Emission Test Result

Test Date:	2024-12-12	**Tested By**:	Genliu
EUT:	wireless internet gateway	**Model Number**:	GW3
Test Mode:	LoRa-64channels 914.9MHz	**Power Supply**:	DC 12V
Condition:	Temp:21.2°C;Humi:52.7%	**Test Site**:	DDT 3# Chamber
File Path:	d:\ts\2024 report data\Q24092616-2E\1211 FCC ABOVE 1G\48		
Memo:	Sample Number:S24042326 Power Setting:20 (5dBi Antenna)		

Test Graph



Data List										
NO.	Freq. [MHz]	Reading [dBµV/m]	Antenna Factor [dB]	Cable loss [dB]	AMP [dB]	Level [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Detector	Polarity
1	2745.100	50.40	27.59	5.06	-39.12	43.93	74.00	30.07	PK	Vertical
2	3660.400	48.71	30.24	5.11	-39.60	44.46	74.00	29.54	PK	Vertical
3	4574.800	49.16	31.90	5.39	-39.63	46.82	74.00	27.18	PK	Vertical
4	4852.900	44.56	33.75	5.56	-39.61	44.26	74.00	29.74	PK	Vertical
5	7406.200	43.38	36.69	6.66	-40.63	46.10	74.00	27.90	PK	Vertical
6	9155.800	42.14	38.51	7.35	-38.92	49.08	74.00	24.92	PK	Vertical

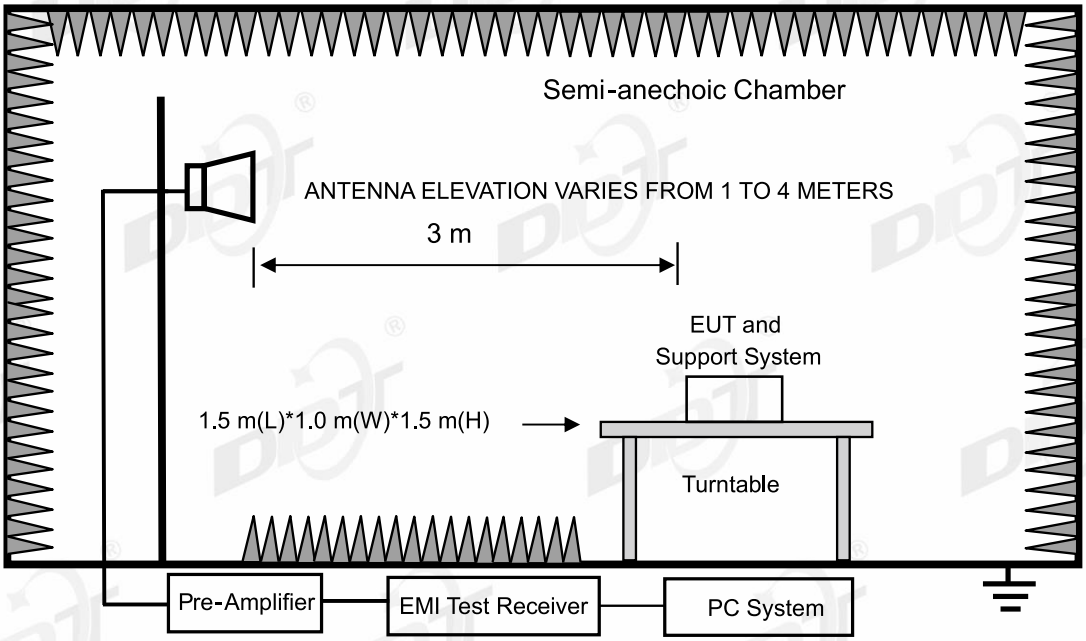
Note:
1. Level = Reading + Cable loss + Antenna Factor + AMP
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.

15.Band Edge Compliance

15.1. Test equipment

Equipment	Manufacturer	Model No.	Serial No.	Cal Due To
RF cable	Yuhu Technology	ZT26S-SMAJ-SMAJ-1M	DDT-ZC02037	2025/03/31
High Pass filter	Xi'an Xingbo	XBLBQ-GTA67	DDT-ZC02179	2025/04/22
Trilog Broadband Antenna	Schwarzbeck	VULB 9163	DDT-ZC02050	2025/07/11
Pre-amplifier	COM-POWER	PAM-118A	DDT-ZC01293	2025/08/25
Active Loop Antenna	Schwarzbeck	FMZB1519	DDT-ZC00524	2025/09/11
EMI TEST RECEIVER	R&S	ESU26	DDT-ZC01909	2025/03/31
Broad-Band Horn Antenna	Schwarzbeck	BBHA 9170	DDT-ZC00506	2025/04/26
PSA Series Spectrum Analyzer	Agilent	E4447A	DDT-ZC00517	2025/03/31
RF cable	Zhongke Junchuang	JCT26S-NJ-NJ-1.5M	DDT-ZC02762	2025/03/31
RF Cable	N/A	W13.02 AP1-X2	DDT-ZC04023	2025/03/31
Pre-amplifier	COM-POWER	PAM-840A	DDT-ZC01693	2025/03/31
Micro-Tronics filters	REBES	BRM50702	DDT-ZC03242	/
Micro-Tronics filters	REBES	BRM50716	DDT-ZC03240	/
Hochgewinn-Hornantenne	SCHWARZBECK	BBHA 9120 D	DDT-ZC02129	2025/09/18
High pass filter	Micro-Tronics	HPM50102	DDT-ZC00561	2025/04/22
RF Cable	N/A	W24.02 HL-562	DDT-ZC04022	2025/03/31
RF cable	Yuhu Technology	JCTB810-NJ-NJ-9M	DDT-ZC02538	2025/03/31
High pass filter	Micro-Tronics	HPM50108	DDT-ZC00560	2025/04/22

15.2. Block diagram of test setup



15.3. Limits

All restriction band should comply with 15.209 limits, other emission should be at least 20 dB below the fundamental.

15.4. Assistant equipment used for test

Assistant equipment	Manufacturer	Model number	Description	other
/	/	/	/	/

15.5. Test procedure

Same with Radiated Emission except change investigated frequency range.
Remark: All restriction band have been tested, and only the worst case is shown in report.

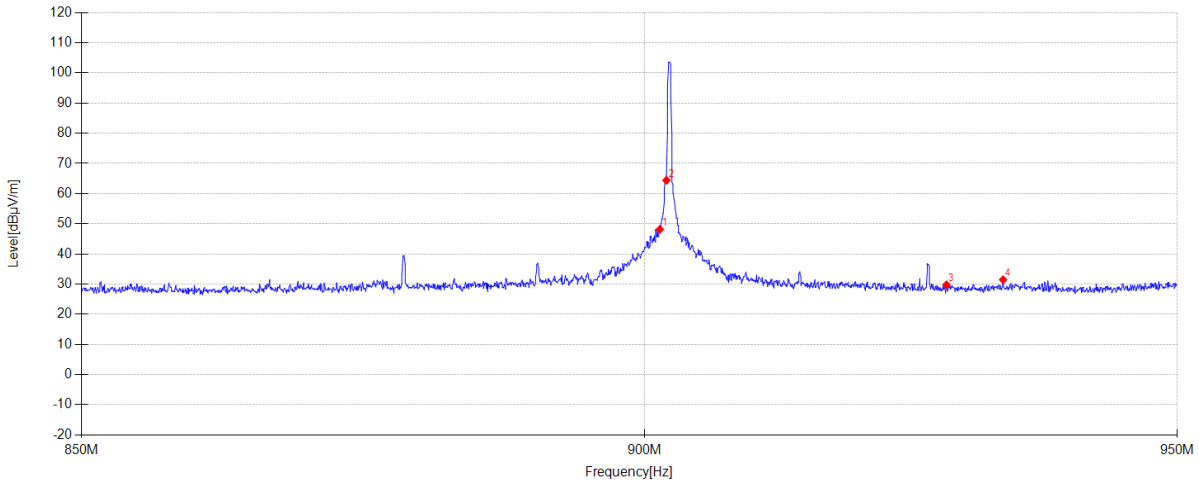
15.6. Test result

PASS. (See below detailed test result)

15.7. Test data

TR-4-E-009 Radiated Emission Test Result

Test Date:	2025-01-03	**Tested By**:	Zhong Nan
EUT:	wireless internet gateway	**Model Number**:	GW3
Test Mode:	LoRa-64channels 902.3MHz	**Power Supply**:	DC 12V
Condition:	Temp:23.2°C;Humi:62.7%	**Test Site**:	DDT 3# Chamber
File Path:	d:\ts\2024 report data\Q24092616-2E\FCC BELOW1G 0103\20250103-030058_H		
Memo:	Sample Number:S24042326 Power Setting:20 (PCB Antenna)		

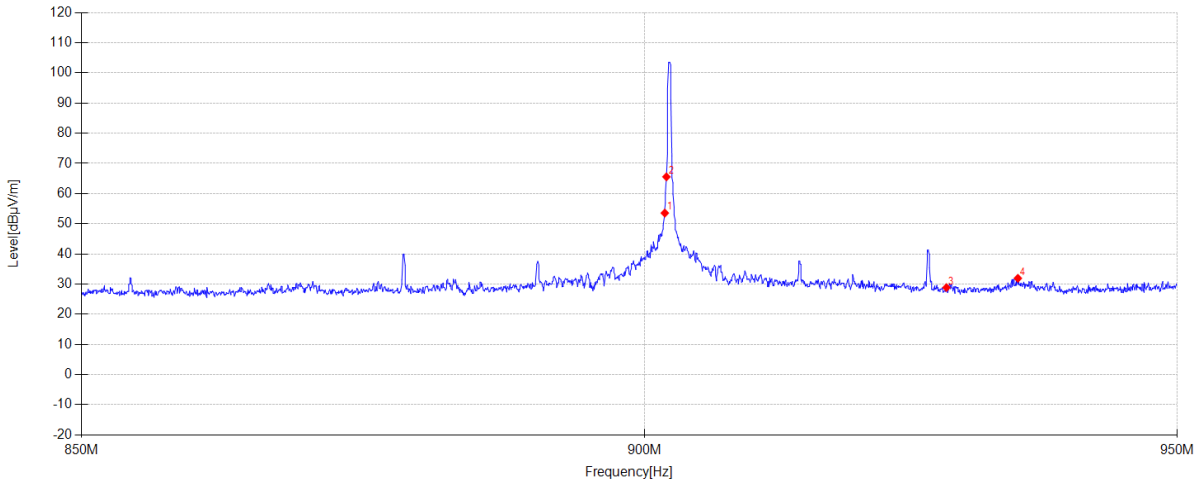


Data List								
NO.	**Freq. [MHz]**	**Reading [dBµV/m]**	**Antenna Factor [dB]**	**Cable loss [dB]**	**AMP [dB]**	**Level [dBµV/m]**	**Detector**	**Polarity**
1	901.400	49.59	21.90	7.20	-30.56	48.13	PK	Horizontal
2	902.000	65.85	21.90	7.21	-30.56	64.40	PK	Horizontal
3	928.000	31.38	21.54	7.27	-30.44	29.75	PK	Horizontal
4	933.350	32.65	21.90	7.29	-30.41	31.43	PK	Horizontal

Note:
1. Result Level = Reading + Cable loss + Antenna Factor + AMP
2. If Peak Result complies with QP limit, QP Result is deemed to comply with QP limit.
3. Test setup: RBW: 120 kHz, VBW: 300 kHz, Sweep time: auto.

TR-4-E-009 Radiated Emission Test Result

Test Date:	2025-01-03	**Tested By**:	Zhong Nan
EUT:	wireless internet gateway	**Model Number**:	GW3
Test Mode:	LoRa-64channels 902.3MHz	**Power Supply**:	DC 12V
Condition:	Temp:23.2°C;Humi:62.7%	**Test Site**:	DDT 3# Chamber
File Path:	d:\ts\2024 report data\Q24092616-2E\FCC BELOW1G 0103\20250103-030144_V		
Memo:	Sample Number:S24042326 Power Setting:20 (PCB Antenna)		

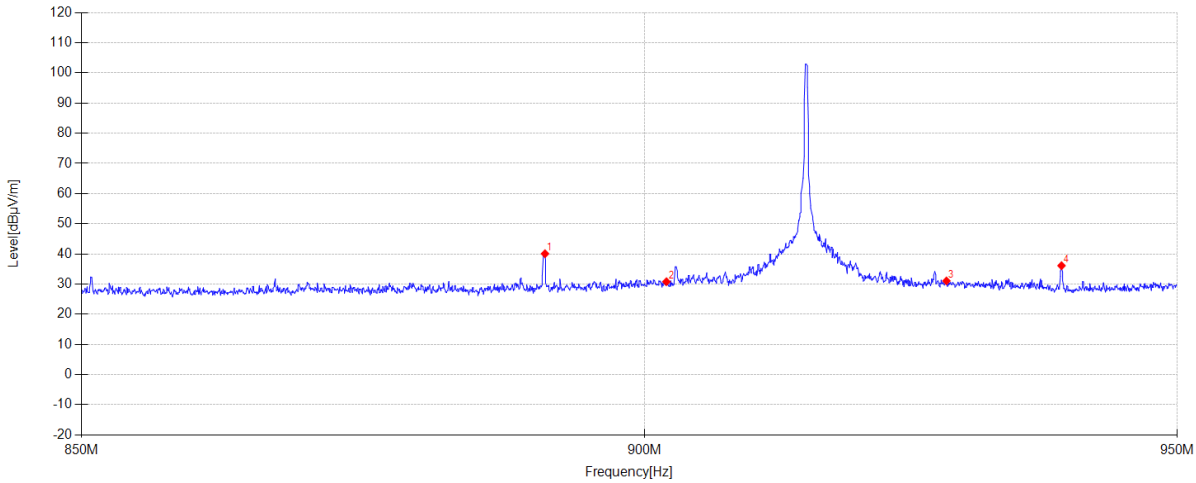


Data List								
NO.	**Freq. [MHz]**	**Reading [dBµV/m]**	**Antenna Factor [dB]**	**Cable loss [dB]**	**AMP [dB]**	**Level [dBµV/m]**	**Detector**	**Polarity**
1	901.850	54.99	21.90	7.20	-30.56	53.53	PK	Vertical
2	902.000	67.00	21.90	7.21	-30.56	65.55	PK	Vertical
3	928.000	30.47	21.54	7.27	-30.44	28.84	PK	Vertical
4	934.750	32.94	22.07	7.29	-30.40	31.90	PK	Vertical

Note:
1. Result Level = Reading + Cable loss + Antenna Factor + AMP
2. If Peak Result complies with QP limit, QP Result is deemed to comply with QP limit.
3. Test setup: RBW: 120 kHz, VBW: 300 kHz, Sweep time: auto.

TR-4-E-009 Radiated Emission Test Result

Test Date:	2025-01-03	**Tested By**:	Zhong Nan
EUT:	wireless internet gateway	**Model Number**:	GW3
Test Mode:	LoRa-64channels 914.9MHz	**Power Supply**:	DC 12V
Condition:	Temp:23.2°C;Humi:62.7%	**Test Site**:	DDT 3# Chamber
File Path:	d:\ts\2024 report data\Q24092616-2E\FCC BELOW1G 0103\20250103-030401_H		
Memo:	Sample Number:S24042326 Power Setting:20 (PCB Antenna)		

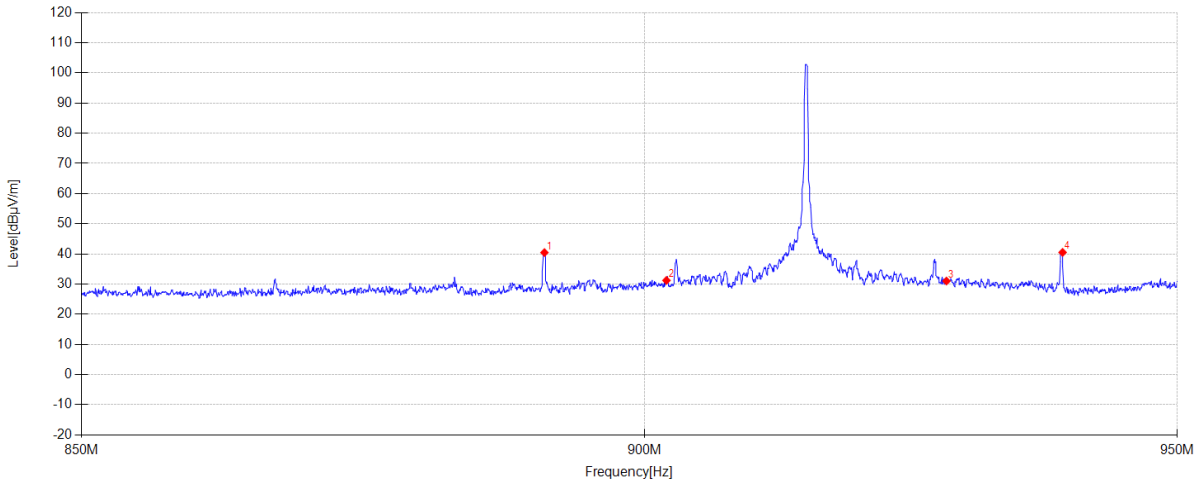


Data List								
NO.	**Freq. [MHz]**	**Reading [dBµV/m]**	**Antenna Factor [dB]**	**Cable loss [dB]**	**AMP [dB]**	**Level [dBµV/m]**	**Detector**	**Polarity**
1	890.950	41.96	21.52	7.18	-30.61	40.05	PK	Horizontal
2	902.000	32.23	21.90	7.21	-30.56	30.78	PK	Horizontal
3	928.000	32.66	21.54	7.27	-30.44	31.03	PK	Horizontal
4	938.900	37.94	21.24	7.30	-30.39	36.09	PK	Horizontal

Note:
1. Result Level = Reading + Cable loss + Antenna Factor + AMP
2. If Peak Result complies with QP limit, QP Result is deemed to comply with QP limit.
3. Test setup: RBW: 120 kHz, VBW: 300 kHz, Sweep time: auto.

TR-4-E-009 Radiated Emission Test Result

Test Date:	2025-01-03	**Tested By**:	Zhong Nan
EUT:	wireless internet gateway	**Model Number**:	GW3
Test Mode:	LoRa-64channels 914.9MHz	**Power Supply**:	DC 12V
Condition:	Temp:23.2°C;Humi:62.7%	**Test Site**:	DDT 3# Chamber
File Path:	d:\ts\2024 report data\Q24092616-2E\FCC BELOW1G 0103\20250103-030446_V		
Memo:	Sample Number:S24042326 Power Setting:20 (PCB Antenna)		

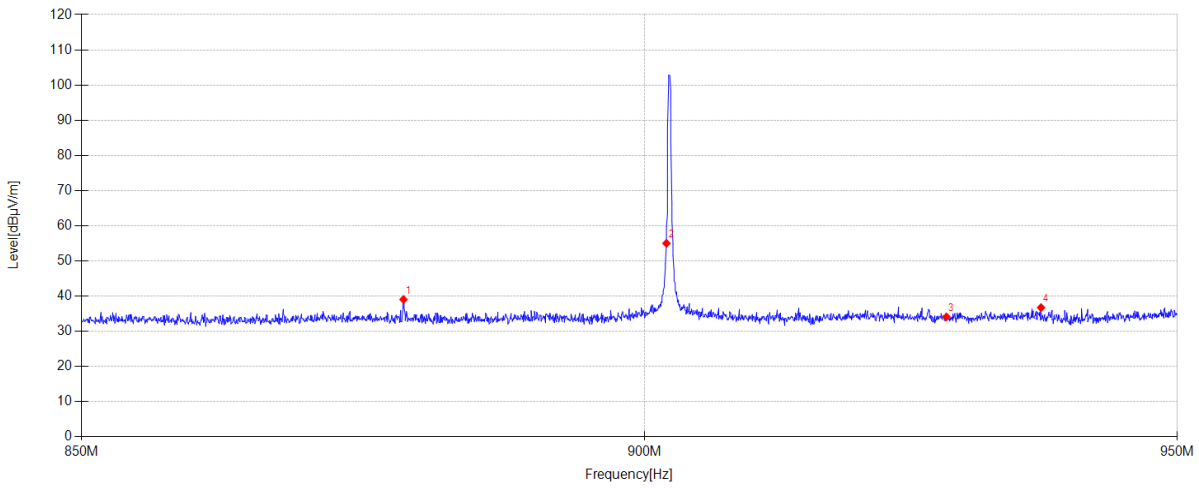


Data List								
NO.	**Freq. [MHz]**	**Reading [dBµV/m]**	**Antenna Factor [dB]**	**Cable loss [dB]**	**AMP [dB]**	**Level [dBµV/m]**	**Detector**	**Polarity**
1	890.900	42.33	21.53	7.18	-30.61	40.43	PK	Vertical
2	902.000	32.65	21.90	7.21	-30.56	31.20	PK	Vertical
3	928.000	32.63	21.54	7.27	-30.44	31.00	PK	Vertical
4	939.000	42.35	21.22	7.30	-30.38	40.49	PK	Vertical

Note:
1. Result Level = Reading + Cable loss + Antenna Factor + AMP
2. If Peak Result complies with QP limit, QP Result is deemed to comply with QP limit.
3. Test setup: RBW: 120 kHz, VBW: 300 kHz, Sweep time: auto.

TR-4-E-009 Radiated Emission Test Result

Test Date:	2024-12-16	**Tested By**:	Genliu
EUT:	wireless internet gateway	**Model Number**:	GW3
Test Mode:	LoRa-64channels 902.3MHz	**Power Supply**:	DC 12V
Condition:	Temp:21.2°C;Humi:52.7%	**Test Site**:	DDT 3# Chamber
File Path:	d:\ts\2024 report data\Q24092616-2E\1211 FCC BELOW 1G \20241216-222547_H		
Memo:	Sample Number:S24042326 Power Setting:20 (3dBi Antenna)		

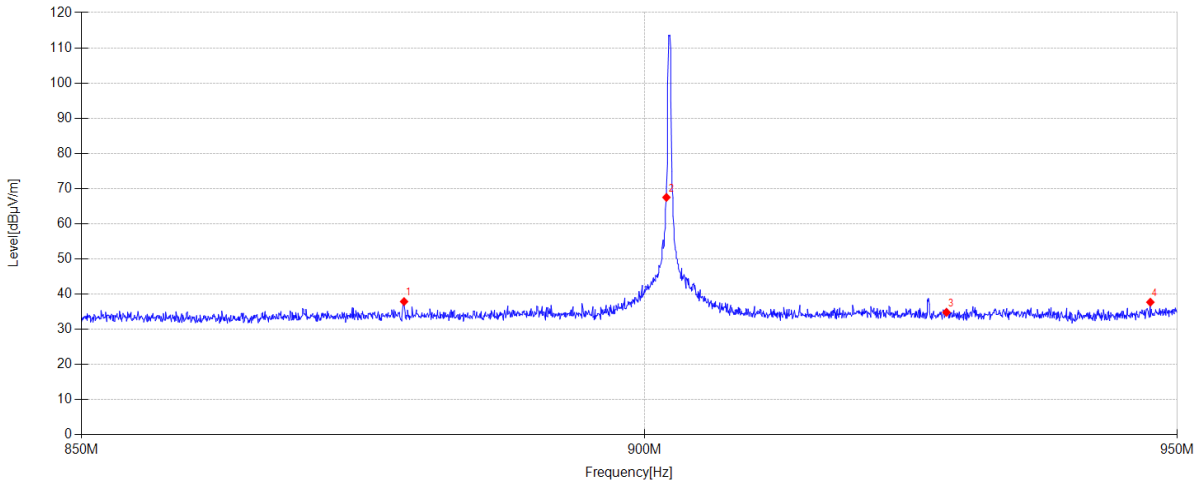


Data List								
NO.	**Freq. [MHz]**	**Reading [dBµV/m]**	**Antenna Factor [dB]**	**Cable loss [dB]**	**AMP [dB]**	**Level [dBµV/m]**	**Detector**	**Polarity**
1	878.250	10.52	21.37	7.15	0.00	39.04	PK	Horizontal
2	902.000	25.88	21.90	7.21	0.00	54.99	PK	Horizontal
3	928.000	5.29	21.54	7.27	0.00	34.10	PK	Horizontal
4	936.950	7.75	21.67	7.30	0.00	36.72	PK	Horizontal

Note:
1. Result Level = Reading + Cable loss + Antenna Factor + AMP
2. If Peak Result complies with QP limit, QP Result is deemed to comply with QP limit.
3. Test setup: RBW: 120 kHz, VBW: 300 kHz, Sweep time: auto.

TR-4-E-009 Radiated Emission Test Result

Test Date:	2024-12-16	**Tested By**:	Genliu
EUT:	wireless internet gateway	**Model Number**:	GW3
Test Mode:	LoRa-64channels 902.3MHz	**Power Supply**:	DC 12V
Condition:	Temp:21.2°C;Humi:52.7%	**Test Site**:	DDT 3# Chamber
File Path:	d:\ts\2024 report data\Q24092616-2E\1211 FCC BELOW 1G \20241216-222633_V		
Memo:	Sample Number:S24042326 Power Setting:20 (3dBi Antenna)		

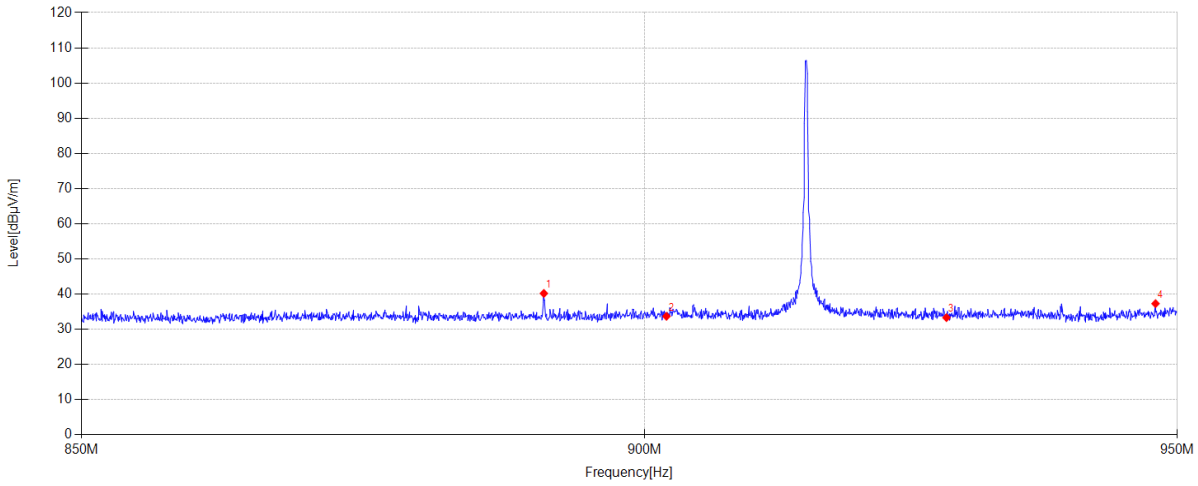


Data List								
NO.	**Freq. [MHz]**	**Reading [dBµV/m]**	**Antenna Factor [dB]**	**Cable loss [dB]**	**AMP [dB]**	**Level [dBµV/m]**	**Detector**	**Polarity**
1	878.300	9.36	21.37	7.15	0.00	37.88	PK	Vertical
2	902.000	38.38	21.90	7.21	0.00	67.49	PK	Vertical
3	928.000	6.01	21.54	7.27	0.00	34.82	PK	Vertical
4	947.400	8.29	22.08	7.32	0.00	37.69	PK	Vertical

Note:
1. Result Level = Reading + Cable loss + Antenna Factor + AMP
2. If Peak Result complies with QP limit, QP Result is deemed to comply with QP limit.
3. Test setup: RBW: 120 kHz, VBW: 300 kHz, Sweep time: auto.

TR-4-E-009 Radiated Emission Test Result

Test Date:	2024-12-16	**Tested By**:	Genliu
EUT:	wireless internet gateway	**Model Number**:	GW3
Test Mode:	LoRa-64channels 914.9MHz	**Power Supply**:	DC 12V
Condition:	Temp:21.2°C;Humi:52.7%	**Test Site**:	DDT 3# Chamber
File Path:	d:\ts\2024 report data\Q24092616-2E\1211 FCC BELOW 1G \20241216-223411_H		
Memo:	Sample Number:S24042326 Power Setting:20 (3dBi Antenna)		

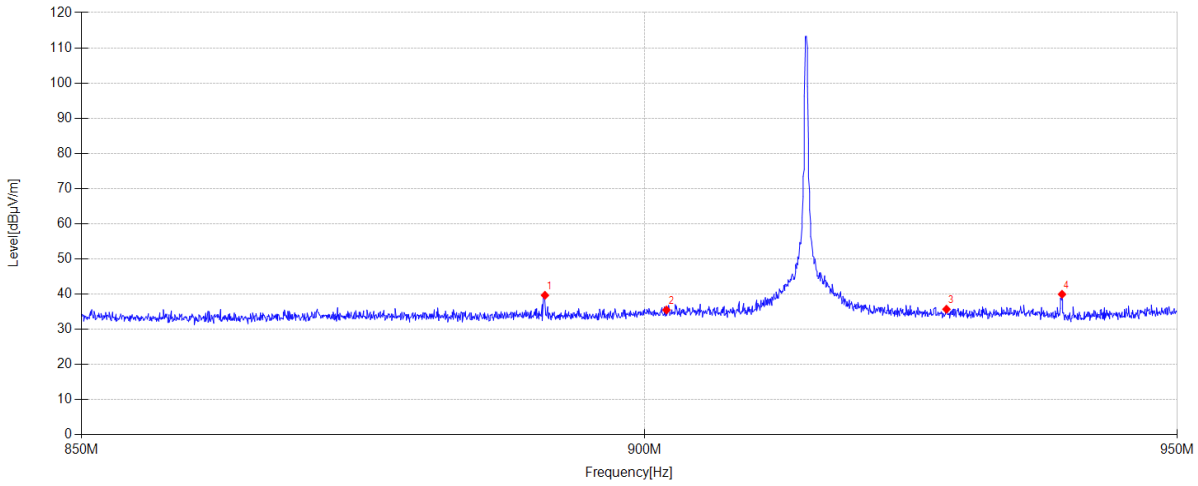


Data List								
NO.	**Freq. [MHz]**	**Reading [dBµV/m]**	**Antenna Factor [dB]**	**Cable loss [dB]**	**AMP [dB]**	**Level [dBµV/m]**	**Detector**	**Polarity**
1	890.850	11.47	21.53	7.18	0.00	40.18	PK	Horizontal
2	902.000	4.58	21.90	7.21	0.00	33.69	PK	Horizontal
3	928.000	4.49	21.54	7.27	0.00	33.30	PK	Horizontal
4	947.900	7.77	22.20	7.32	0.00	37.29	PK	Horizontal

Note:
1. Result Level = Reading + Cable loss + Antenna Factor + AMP
2. If Peak Result complies with QP limit, QP Result is deemed to comply with QP limit.
3. Test setup: RBW: 120 kHz, VBW: 300 kHz, Sweep time: auto.

TR-4-E-009 Radiated Emission Test Result

Test Date:	2024-12-16	**Tested By**:	Genliu
EUT:	wireless internet gateway	**Model Number**:	GW3
Test Mode:	LoRa-64channels 914.9MHz	**Power Supply**:	DC 12V
Condition:	Temp:21.2°C;Humi:52.7%	**Test Site**:	DDT 3# Chamber
File Path:	d:\ts\2024 report data\Q24092616-2E\1211 FCC BELOW 1G \20241216-223500_V		
Memo:	Sample Number:S24042326 Power Setting:20 (3dBi Antenna)		

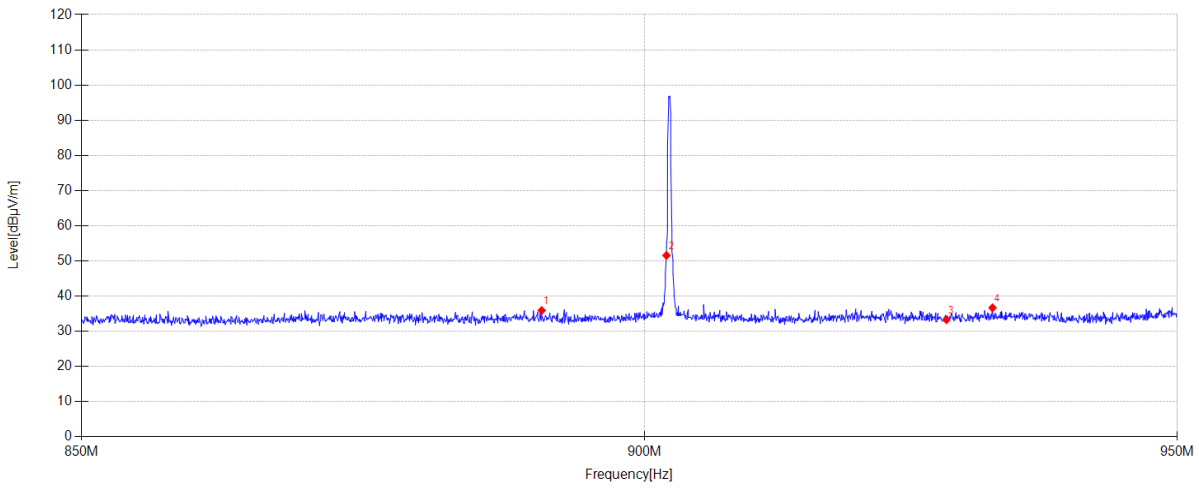


Data List								
NO.	**Freq. [MHz]**	**Reading [dBµV/m]**	**Antenna Factor [dB]**	**Cable loss [dB]**	**AMP [dB]**	**Level [dBµV/m]**	**Detector**	**Polarity**
1	890.950	10.96	21.52	7.18	0.00	39.66	PK	Vertical
2	902.000	6.37	21.90	7.21	0.00	35.48	PK	Vertical
3	928.000	6.88	21.54	7.27	0.00	35.69	PK	Vertical
4	938.950	11.42	21.23	7.30	0.00	39.95	PK	Vertical

Note:
1. Result Level = Reading + Cable loss + Antenna Factor + AMP
2. If Peak Result complies with QP limit, QP Result is deemed to comply with QP limit.
3. Test setup: RBW: 120 kHz, VBW: 300 kHz, Sweep time: auto.

TR-4-E-009 Radiated Emission Test Result

Test Date:	2024-12-16	**Tested By**:	Genliu
EUT:	wireless internet gateway	**Model Number**:	GW3
Test Mode:	LoRa-64channels 902.3MHz	**Power Supply**:	DC 12V
Condition:	Temp:21.2°C;Humi:52.7%	**Test Site**:	DDT 3# Chamber
File Path:	d:\ts\2024 report data\Q24092616-2E\1211 FCC BELOW 1G \20241216-232238_H		
Memo:	Sample Number:S24042326 Power Setting:20 (5dBi Antenna)		

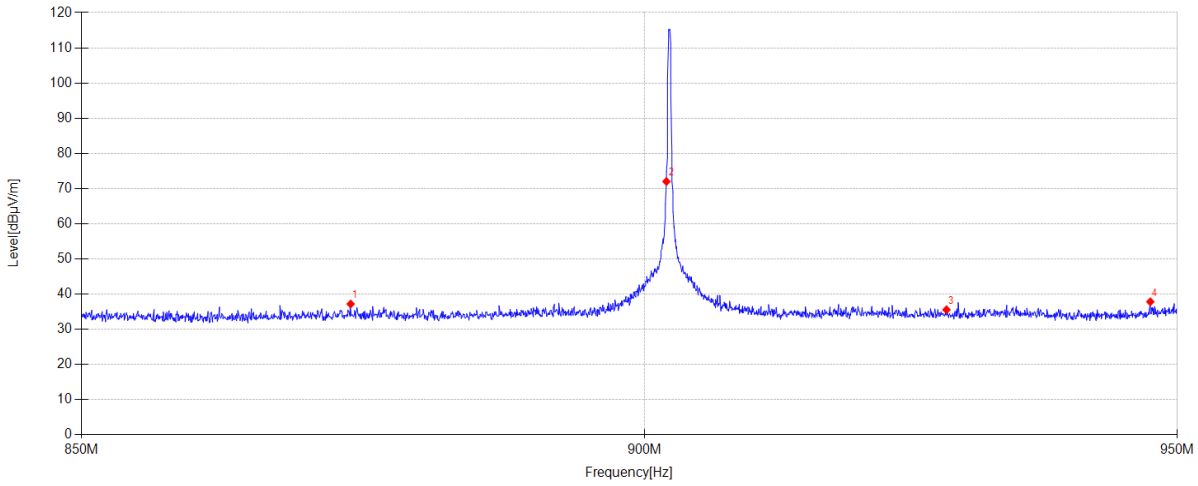


Data List								
NO.	**Freq. [MHz]**	**Reading [dBµV/m]**	**Antenna Factor [dB]**	**Cable loss [dB]**	**AMP [dB]**	**Level [dBµV/m]**	**Detector**	**Polarity**
1	890.650	7.19	21.55	7.18	0.00	35.92	PK	Horizontal
2	902.000	22.45	21.90	7.21	0.00	51.56	PK	Horizontal
3	928.000	4.46	21.54	7.27	0.00	33.27	PK	Horizontal
4	932.350	7.62	21.78	7.28	0.00	36.68	PK	Horizontal

Note:
1. Result Level = Reading + Cable loss + Antenna Factor + AMP
2. If Peak Result complies with QP limit, QP Result is deemed to comply with QP limit.
3. Test setup: RBW: 120 kHz, VBW: 300 kHz, Sweep time: auto.

TR-4-E-009 Radiated Emission Test Result

Test Date:	2024-12-16	**Tested By**:	Genliu
EUT:	wireless internet gateway	**Model Number**:	GW3
Test Mode:	LoRa-64channels 902.3MHz	**Power Supply**:	DC 12V
Condition:	Temp:21.2°C;Humi:52.7%	**Test Site**:	DDT 3# Chamber
File Path:	d:\ts\2024 report data\Q24092616-2E\1211 FCC BELOW 1G \20241216-232323_V		
Memo:	Sample Number:S24042326 Power Setting:20 (5dBi Antenna)		

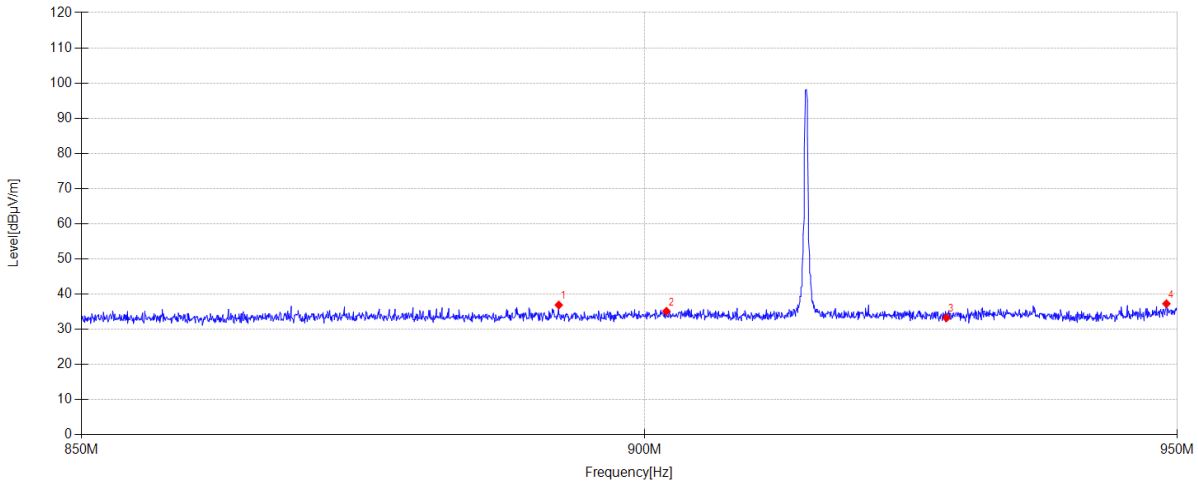


Data List								
NO.	**Freq. [MHz]**	**Reading [dBµV/m]**	**Antenna Factor [dB]**	**Cable loss [dB]**	**AMP [dB]**	**Level [dBµV/m]**	**Detector**	**Polarity**
1	873.550	8.59	21.47	7.13	0.00	37.19	PK	Vertical
2	902.000	42.89	21.90	7.21	0.00	72.00	PK	Vertical
3	928.000	6.74	21.54	7.27	0.00	35.55	PK	Vertical
4	947.400	8.42	22.08	7.32	0.00	37.82	PK	Vertical

Note:
1. Result Level = Reading + Cable loss + Antenna Factor + AMP
2. If Peak Result complies with QP limit, QP Result is deemed to comply with QP limit.
3. Test setup: RBW: 120 kHz, VBW: 300 kHz, Sweep time: auto.

TR-4-E-009 Radiated Emission Test Result

Test Date:	2024-12-16	**Tested By**:	Genliu
EUT:	wireless internet gateway	**Model Number**:	GW3
Test Mode:	LoRa-64channels 914.9MHz	**Power Supply**:	DC 12V
Condition:	Temp:21.2°C;Humi:52.7%	**Test Site**:	DDT 3# Chamber
File Path:	d:\ts\2024 report data\Q24092616-2E\1211 FCC BELOW 1G \20241216-232706_H		
Memo:	Sample Number:S24042326 Power Setting:20 (5dBi Antenna)		

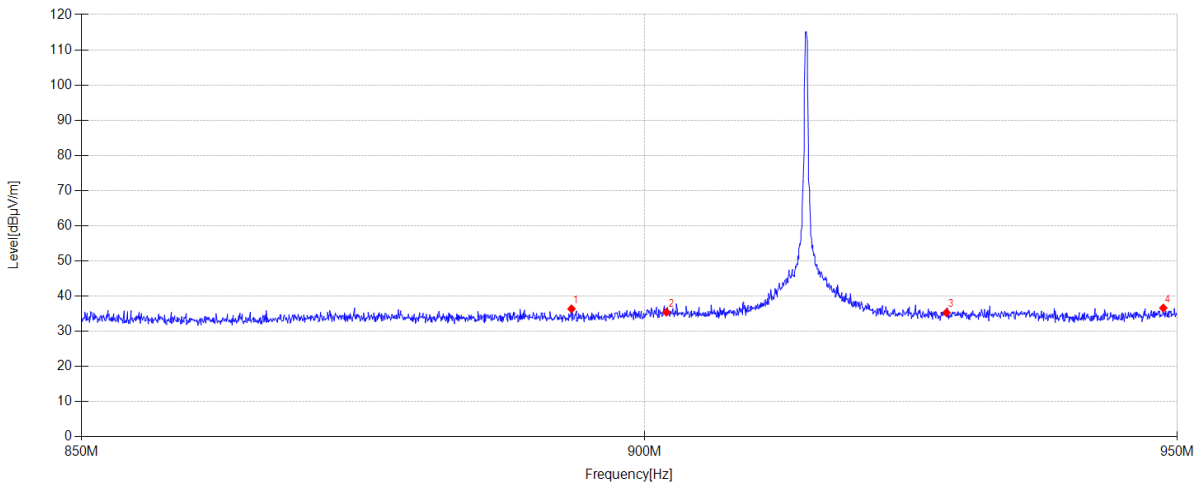


Data List								
NO.	**Freq. [MHz]**	**Reading [dBµV/m]**	**Antenna Factor [dB]**	**Cable loss [dB]**	**AMP [dB]**	**Level [dBµV/m]**	**Detector**	**Polarity**
1	892.200	8.29	21.42	7.18	0.00	36.89	PK	Horizontal
2	902.000	6.02	21.90	7.21	0.00	35.13	PK	Horizontal
3	928.000	4.45	21.54	7.27	0.00	33.26	PK	Horizontal
4	948.950	7.49	22.45	7.33	0.00	37.27	PK	Horizontal

Note:
1. Result Level = Reading + Cable loss + Antenna Factor + AMP
2. If Peak Result complies with QP limit, QP Result is deemed to comply with QP limit.
3. Test setup: RBW: 120 kHz, VBW: 300 kHz, Sweep time: auto.

TR-4-E-009 Radiated Emission Test Result

Test Date:	2024-12-16	**Tested By**:	Genliu
EUT:	wireless internet gateway	**Model Number**:	GW3
Test Mode:	LoRa-64channels 914.9MHz	**Power Supply**:	DC 12V
Condition:	Temp:21.2°C;Humi:52.7%	**Test Site**:	DDT 3# Chamber
File Path:	d:\ts\2024 report data\Q24092616-2E\1211 FCC BELOW 1G \20241216-232750_V		
Memo:	Sample Number:S24042326 Power Setting:20 (5dBi Antenna)		



Data List								
NO.	**Freq. [MHz]**	**Reading [dBµV/m]**	**Antenna Factor [dB]**	**Cable loss [dB]**	**AMP [dB]**	**Level [dBµV/m]**	**Detector**	**Polarity**
1	893.350	7.87	21.33	7.18	0.00	36.38	PK	Vertical
2	902.000	6.31	21.90	7.21	0.00	35.42	PK	Vertical
3	928.000	6.49	21.54	7.27	0.00	35.30	PK	Vertical
4	948.650	6.90	22.38	7.33	0.00	36.61	PK	Vertical

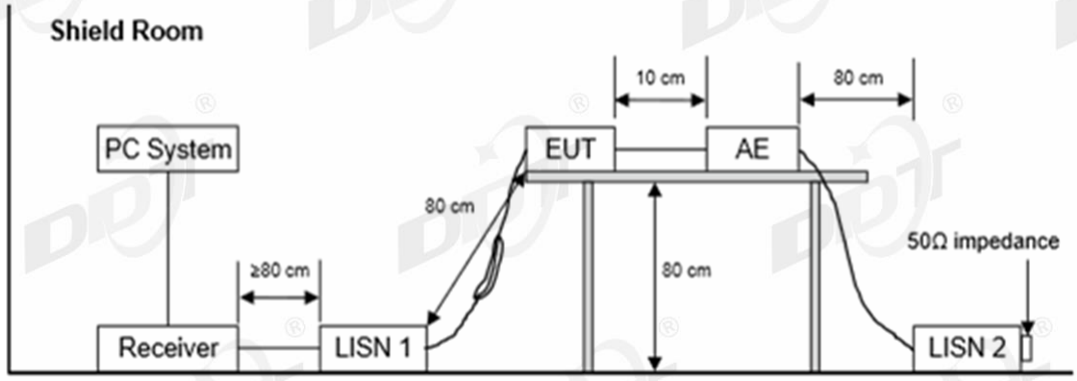
Note:
1. Result Level = Reading + Cable loss + Antenna Factor + AMP
2. If Peak Result complies with QP limit, QP Result is deemed to comply with QP limit.
3. Test setup: RBW: 120 kHz, VBW: 300 kHz, Sweep time: auto.

16.Power Line Conducted Emissions

16.1. Test equipment

Equipment	Manufacturer	Model No.	Serial No.	Cal Due To
RF Cable	Yuhu Technology	Z806-NJ-NJ-6M	DDT-ZC02004	2025/07/08
Three-phase artificial power network	SCHWARZBECK	NSLK 8163	DDT-ZC01572	2025/07/08
Δ-shaped artificial power network	SCHWARZBECK	PVDC 8301	DDT-ZC03939	2025/03/31
Two Line V-Network	R&S	ENV216	DDT-ZC02059	2025/07/08
Pulse Limiter	SCHWARZBECK	VTSD 9561	DDT-ZC02128	2025/07/08
Condected Radiated Software	Audix	E3	DDT-ZC00562	/
EMI Test Receiver	R&S	ESCI/E3	DDT-ZC01297	2025/07/08
Two Line V-Network	R&S	ENV216	DDT-ZC02056	2025/07/08

16.2. Block diagram of test setup



16.3. Limits

Frequency	Quasi-Peak Level dB(uV)	Average Level dB(uV)
150 kHz~500 kHz	66 ~ 56*	56 ~ 46*
500 kHz~5 MHz	56	46
5 MHz~30 MHz	60	50

Note 1: * Decreasing linearly with logarithm of frequency.

Note 2: The lower limit shall apply at the transition frequencies.

16.4. Assistant equipment used for test

Assistant equipment	Manufacturer	Model number	Description	other
/	/	/	/	/

16.5. Test procedure

The EUT and Support equipment, if needed, were put placed on a non-metallic table, 80cm above the ground plane.

All support equipment power received from a second LISN.

Emissions were measured on each current carrying line of the EUT using an EMI Test Receiver connected to the LISN powering the EUT.

The Receiver scanned from 150 kHz to 30 MHz for emissions in each of the test modes.

During the above scans, the emissions were maximized by cable manipulation.

The test mode(s) described in clause 2.4 were scanned during the preliminary test.

After the preliminary scan, we found the test mode producing the highest emission level.

The EUT configuration and worse cable configuration of the above highest emission levels were recorded for reference of the final test.

EUT and support equipment were set up on the test bench as per the configuration with highest emission level in the preliminary test.

A scan was taken on both power lines, Neutral and Line, recording at least the six highest emissions.

Emission frequency and amplitude were recorded into a computer in which correction factors were used to calculate the emission level and compare reading to the applicable limit.

The test data of the worst-case condition(s) was recorded.
The bandwidth of test receiver is set at 9 kHz.

16.6. Test result

PASS. (See below detailed test result)

Note1: All emissions not reported below are too low against the prescribed limits.

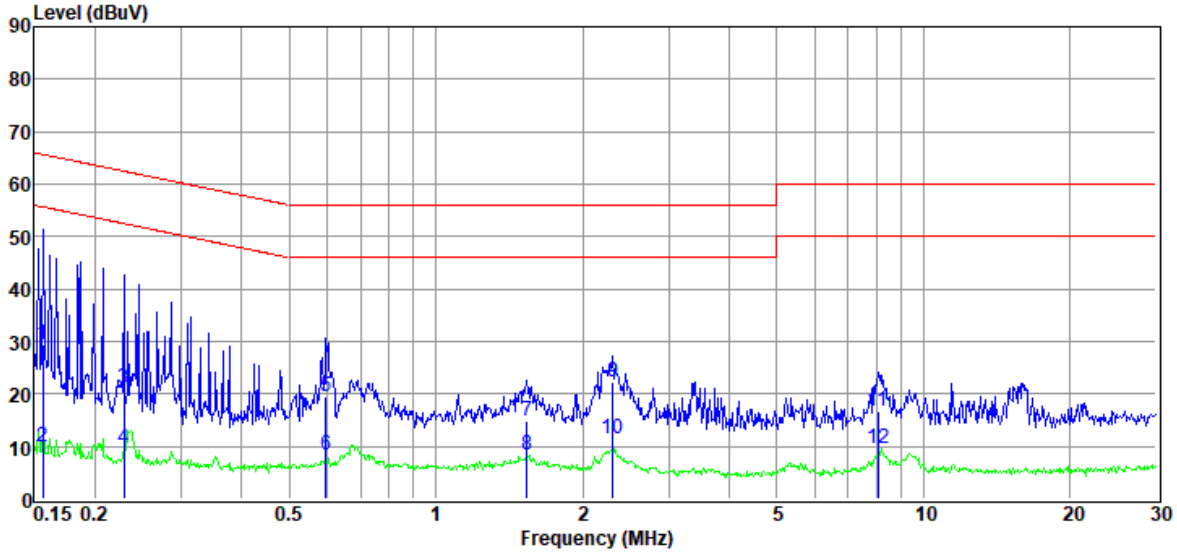
Note2: "-----" means Peak detection; "-----" means Average detection.

Note3: Pre-test AC conducted emission at both voltage AC 120V/60Hz and AC 240V/50Hz, recorded the worst case.

16.7. Test data

TR-4-E-010 Conducted Emission Test Result

Test Site	:	DDT 6# Shield Room	D:\2024 Report Date\Q24092616-2E\1224 CE.EM6		
Test Date	:	2024-12-24	**Tested By**	:	Gen Liu
EUT	:	wireless internet gateway	**Model Number**	:	GW3
Power Supply	:	AC 120V/60Hz	**Test Mode**	:	LoRa-64channels
Condition	:	Temp:21.9°C,Humi:56.2%	**LISN**	:	2024 ENV216 3#/NEUTRAL
Memo	:				

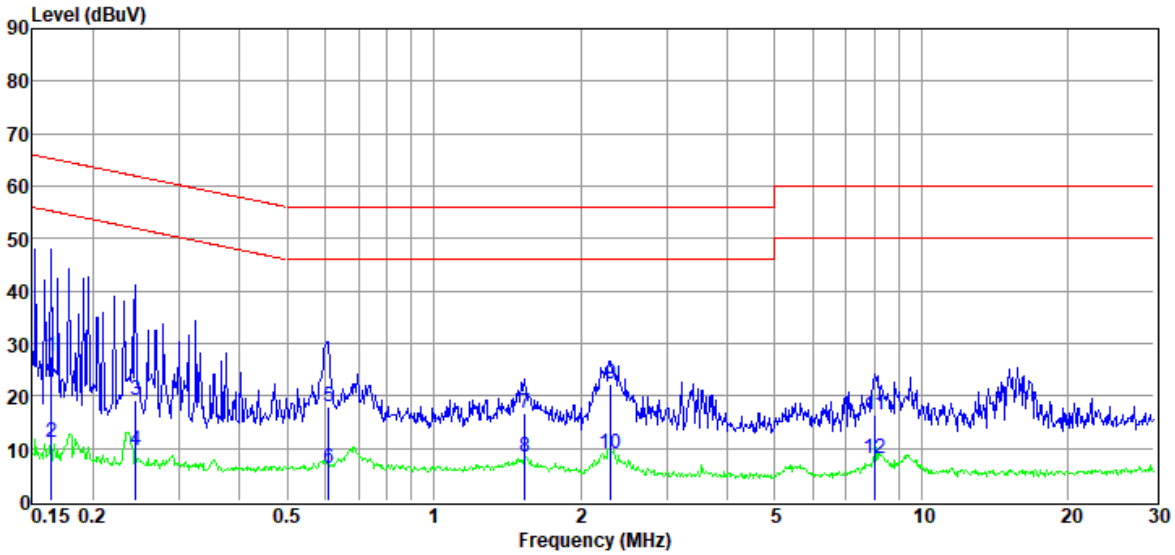


Item (Mark)	Freq. (MHz)	Read Level (dBµV)	LISN Factor (dB)	Cable Loss (dB)	Pulse Limiter Factor (dB)	Result Level (dBµV)	Limit Line (dBµV)	Over Limit (dB)	Detector	Phase
1	0.16	9.79	9.78	0.07	9.83	29.47	65.65	-36.18	QP	NEUTRAL
2	0.16	-9.89	9.78	0.07	9.83	9.79	55.65	-45.86	Average	NEUTRAL
3	0.23	1.33	9.76	0.06	9.83	20.98	62.48	-41.50	QP	NEUTRAL
4	0.23	-10.17	9.76	0.06	9.83	9.48	52.48	-43.00	Average	NEUTRAL
5	0.59	-0.27	9.75	0.09	9.83	19.40	56.00	-36.60	QP	NEUTRAL
6	0.59	-11.38	9.75	0.09	9.83	8.29	46.00	-37.71	Average	NEUTRAL
7	1.54	-4.87	9.77	0.11	9.84	14.85	56.00	-41.15	QP	NEUTRAL
8	1.54	-11.36	9.77	0.11	9.84	8.36	46.00	-37.64	Average	NEUTRAL
9	2.31	2.49	9.77	0.11	9.84	22.21	56.00	-33.79	QP	NEUTRAL
10	2.31	-8.15	9.77	0.11	9.84	11.57	46.00	-34.43	Average	NEUTRAL
11	8.06	-3.11	9.83	0.18	9.87	16.77	60.00	-43.23	QP	NEUTRAL
12	8.06	-10.18	9.83	0.18	9.87	9.70	50.00	-40.30	Average	NEUTRAL

Note: 1. Result Level = Read Level +LISN Factor + Pulse Limiter Factor + Cable loss.
2. If QP Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Test setup: RBW: 200 Hz (9 kHz—150 kHz), 9 kHz (150 kHz—30 MHz).
4. Step size: 80Hz (0.009MHz-0.15MHz), 4 kHz (0.15MHz-30MHz), Scan time: auto.

TR-4-E-010 Conducted Emission Test Result

Test Site	: DDT 6# Shield Room	D:\2024 Report Date\Q24092616-2E\1224 CE.EM6	
Test Date	: 2024-12-24	**Tested By**	: Gen Liu
EUT	: wireless internet gateway	**Model Number**	: GW3
Power Supply	: AC 120V/60Hz	**Test Mode**	: LoRa-64channels
Condition	: Temp:21.9°C,Humi:56.2%	**LISN**	: 2024 ENV216 3#/LINE
Memo	:		



Item (Mark)	Freq. (MHz)	Read Level (dBµV)	LISN Factor (dB)	Cable Loss (dB)	Pulse Limiter Factor (dB)	Result Level (dBµV)	Limit Line (dBµV)	Over Limit (dB)	Detector	Phase
1	0.16	7.97	9.78	0.07	9.83	27.65	65.25	-37.60	QP	LINE
2	0.16	-8.63	9.78	0.07	9.83	11.05	55.25	-44.20	Average	LINE
3	0.24	-0.43	9.76	0.06	9.83	19.22	61.95	-42.73	QP	LINE
4	0.24	-9.98	9.76	0.06	9.83	9.67	51.95	-42.28	Average	LINE
5	0.61	-1.79	9.75	0.09	9.83	17.88	56.00	-38.12	QP	LINE
6	0.61	-13.34	9.75	0.09	9.83	6.33	46.00	-39.67	Average	LINE
7	1.54	-3.06	9.75	0.11	9.84	16.64	56.00	-39.36	QP	LINE
8	1.54	-11.46	9.75	0.11	9.84	8.24	46.00	-37.76	Average	LINE
9	2.31	2.48	9.75	0.11	9.84	22.18	56.00	-33.82	QP	LINE
10	2.31	-10.73	9.75	0.11	9.84	8.97	46.00	-37.03	Average	LINE
11	8.02	-3.35	9.82	0.17	9.87	16.51	60.00	-43.49	QP	LINE
12	8.02	-11.82	9.82	0.17	9.87	8.04	50.00	-41.96	Average	LINE

Note: 1. Result Level = Read Level +LISN Factor + Pulse Limiter Factor + Cable loss.
2. If QP Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Test setup: RBW: 200 Hz (9 kHz—150 kHz), 9 kHz (150 kHz—30 MHz).
4. Step size: 80Hz (0.009MHz-0.15MHz), 4 kHz (0.15MHz-30MHz), Scan time: auto.

18. Photos of the EUT

Please refer to DDT-Q24092616-2E appendix I

----------End Report----------